Pearson, O. P.

1955 - 1966

Catalogue

*4369 - 4437

California localities

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1956

Tilden Park, Contra Costa Co., Calif

Jan 10, 1956

SKELETON ONLY
4369 ♂ Reithrodontomys megalotis. 141 × 74 × 17 × 14 9.6 gm. stomach very full

Banded by Don Roberts on Sept. 24, 1955 with body length at ~~that~~ time of 65 mm and recorded "Pelage color immature." Recaptured Sept. 26, 30, Oct. 5, 6, 8, 10, 11, 13, 14, ~~18, 19, 28~~ Nov. 18, 19, 28 29, 30, Dec. 1, 17, Jan 4, 5 (died in trap).
Ear tag no. 2481, Roberts file no. 56-1.

Feb. 5, 1956

SKELETON ONLY
4370 ♀ Reithrodontomys megalotis 139 × 70 × 16½ × 14 7.9 gm

Banded by Don Roberts on Oct. 1, 51 mm HF, immature pelage.
Recaptured Oct. 6, Oct. 10, Oct. 11, Nov. 29 (67 mm), Dec. 1, Dec. 18 (68 mm, pel op, vag. do, nip. lg.), Jan. 18 (67 mm), Jan. 19 (67 mm), Feb. 5 (68 mm, no tail left).
Vagina closed, nipples ~~small~~, 1 ~~metrial~~ gland left horn, none right, no distinct placental scars and uterus not dark. Pelvis wide open ~~starved~~ in live trap.

May 11, 1956

+ SKELETON
4371 ♀ Neotoma californica 173 × 4[illegible] × 20 × 16 50.1 gm
uterus dark, with scars. Ovaries with corpora lutea of 3 ages. Much mammary tissue. Pelvis wide open.

Tagged July 1, 1955, on Brant's area by Don Roberts.
Body length (head + body) at that time 116 mm, pelvis open, vagina closed
Recaptured May 11, 1955, field measurement of head + body 124 mm. 50 ft. SW of 1st capture.

March 23, 1956

SKELETON ONLY
4372 ♂ Reithro megalotis 131 × 65 8.3 gm.
testis 7 mm, sem. vs. large, 8 mm
tagged by D[redacted] off. on Nov. 23 with body length 56 mm.

March 27, 1956

SKELETON ONLY
4373 ♂ " " 136 × 70 8-9 gm
testis 6½ mm, SV 5 mm.
tagged by Don Roberts Oct. 22 (56 mm H+B). 14 recaptures until final capture on March 27.

SKELETON ONLY
4374 ♀ " 132 × 69 6.6 gm. not preg.
Tagged by Don Roberts Oct. 23, 1955, head+body 55 mm. at that time. 14 recaptures

Peromyscus
1956

Catalog

Orinda, Contra Costa Co., Calif.
March 24, 1956

4375 ♂ Reithrodontomys megalotis 137 × 70 8.6 g
testes 5 mm, sperm in epididymis 5 V 2 mm.
Tagged by Off. Nov 16, 1955, with head + body 56 mm.

Orinda, Contra Costa Co., Calif.
March 14, 1958

4376 ♀ Sorex 114 × 52 × 14 5.2 g
no. emb. In pasture at 629 miner Rd.

4377 ♂ Sorex ornatus 94 × 34 × 12 6.6 g.
testes 7 mm. In pasture at 629 miner Rd.

Tilden Park, Contra Costa Co., Calif
Sept. 16, 1960

4378 ♂ Reithrodontomys megalotis 146 × 78 × 15½ × 14 9.7 g. testes 7½ mm
+SKEL 60-31 Tagged #403 on may 18, 1960, at which time head + body "65 mm, teeth 3?"

Gloretta School, Orinda, Contra Costa Co., Calif.
Sept. 21, 1960

4379 ♂ Reithrodontomys megalotis 151 × 80 × 16 × 14 10.2 g.
+SKEL 60-53 Tagged 432 on may 23, at which time head and body were 68 mm and teeth worn (age 6)

~~4380 ♀~~ Orinda, Pasture,
~~60-66~~ Sept. 27, 1961

4380 ♀ Reithrodontomys megalotis 154 × 78 × 16 × 13 13.2 g. lactating
60-66 Tagged 337 on may 5 at which time "head and body 58 mm, young."

Sept 30, 1960

4381 ♀ Reithrodontomys megalotis 153 × 78 × 16 × 15 12.1 g. not preg. or lact.
60-94 Tagged 332 on may 4 at which time "head + body 71 mm, vagina not open."

1960

Tilden Park, Contra Costa Co., Calif

Oct. 5, 1960

+shel. 4382 ♂ Rithrodontomys megalotis 141 x [66] 10.0 g. testis 4 mm. 60-132 Tagged 368 on May 13 at which time head + body "67 mm, adult"

+shel. 4383 ♀ " " 155 x 78 x 17 x 13 18.7 g. parous 60-133 Tagged 379 on May 14, at which time head and body 62 mm young"

Oct. 6

+shel 4384 ♀ " " 152 x 74 x 17 x 14 11.4 g. parous 60-184 Tagged 376 on May 14 at which time head + body were "60 mm, young"

Oct 8

+shel 4385 ♂ " " 119 x [50] x 16 x 14 9.2 g testis 7 mm 60-250 Tagged 394 on May 17 at which time head and body "65 mm, teeth 6" [= worn]

+shel 4386 ♂ " " 150 x 80 x 17 x 14 10.6 g. testis 8 mm 60-251 Tagged 405 on May 18 at which time "youngish, teeth 2" [= unworn]

Oct. 10

+shel 4387 ♂ " " 139 x 69 x 16 x 14 10.6 g Testis 8½ mm 60-252 tagged 397 on May 17 at which time "head + body 72 mm, teeth 7" [= worn]

Glorietta School, Orinda

Oct. 13

4388 ♀ " " 148 x 77 x 16 x 14 10.4 g. Hembergers brought 3½ mm 60-344 tagged 433 on May 23 at which time head + body "60 mm, young".

Tilden Park. Oct. 23

4389 ♂ " " 140 x 71 x 16 x 13 8.3 g. testis 4 mm, darkish pelage 60-486 tagged May 21 at which time head and body 68 mm, teeth 9.

Oct. 21

4390 ♂ " " 142 x 74 x 17 x 13 11.0 g Testes 7, late of. "young" in pelage. 60-555 tagged 421 on May 20, at which time head + body 64 mm, teeth 2 or 3.

1963
Pearson

Orinda, Contra Costa Co., Calif.

may 7

4391 ♀ Peromyscus truei 198×99×22×21 5 emb.

~~4392~~

may 10

4392 ♂ " " 189×97×24×20 testes 12 mm

4393 ♀ Thomomys bottae 174×60×26×5 no emb.

may 11

4394 ♀ Microtus californicus 143×39×20×13 no emb.

4395 ♂ Peromyscus truei 199×102×23×19 testes 11 mm

may 13

4396 ♂ Peromyscus truei 172×84×23×20 juv. ♂

4397 ♂ " " 167×88×22×20 ♂ testes 6

may 14

4398 ♂ Scapanus latimanus 180×35×18×0 testes 3 mm

4399 ♂ Thomomys bottae 235×55×30×7 testes 14 mm.

may 16

4400 ♀ " " 190×53×26×7 no emb.

Tilden Park, Contra Costa Co, Calif.

may 17

4401 ♀ Reithro. megalotis 131×66×16×14 no emb.

4402 ♂ " " 140×71×15×14 testes 8 mm.

may 18

skeleton only
4403 ♂ Thomomys 248×61×33×8 testes 12 mm

may 19

4404 ♀ Thomomys 210×49×27×7 ~~placental scars~~, vulvar widespread

Berkeley may 22

4405 ♂ Sciurus 471×189×65×32 testes 25 mm

Pearson
1963

Orinda, may 28

4406 ♀ microtus calif. 141×39×19×14 no ent.

June 1

4407 microtus calif.

June 4

4408 ♂ Thomomys bottae 218×49×32×7 testes 4 mm

4409 ♂ Scapanus latimanus 163×30×21×0

June 5

4410 ♂ Sorex ornatus 90×33×13×7 6.1g testes 6 mm

June 6

SKEL. ONLY
4411 ♂ Thomomys 215×54×25.7 132g. testes 4

June 8

SKEL. ONLY
4412 ♂ Thomomys 231×59×31×8 testes 4 mm

June 9

4413 ♂ Thomomys 240×67×32×8 testes 4 mm

June 11, Tilden Park

4414 ♂ Sorex ornatus 84×34×12×7 3.6g.

June 25. Banana Stowaway at Richmond.

4415 ♀ Rhizidomys 305×160×32×19 no ent.

Rogue River, 20 mi. NW Grants Pass, Josephine Co., Oregon

July 29

4416 ♀ Peromyscus boylii 184×98×24×24

4417 ♂ " " — — — — juv.

Rogue River, 12 mi. NE Agness, Curry Co., Oregon, July 30

4418 ♀ Peromyscus maniculatus 167×88×21×18

4419 ♂ " " 187×90×21×18

1963

4420 ♂ Peromyscus truei 200×102×25×24

4421 ? " " 196×105×24×24

Orinda, Contra Costa Co., Calif., Aug. 17

4422 ♂ Sorex ornatus 84×39×11×7 testis 2 — 3.4 g.

5 mi. E. Electra, Wichita Co., Texas

caught in pure by norman Negus.

4423 ♂ Perognathus 204×97×26×12

4424 ♀ " 206×98×25×13

Orinda, Contra Costa Co., Calif. Nov. 30

4425 Sorex ornatus 85×34×11×8 3.3 g.

Dec. 3

4426 Neotoma fuscipes 420×200×43×31 234 g.

Tilden Park, Contra Costa Co., Calif. Dec. 3

4427 ♂ Peromyscus maniculatus 157×74×19×17 22 g. testis 5 5 4

Orinda, Contra Costa Co., Calif. Dec. 12

4428 ♂ Neotoma fuscipes 451×211×45×32 279 g.

Tilden Park, Contra Costa Co., Dec. 17

4429 Sorex ornatus 85×28×11×7 2.9 g.

Orinda, Contra Costa Co., Calif. Dec. 26

4430 ♀ Thomomys bottae 195×49×27×8 no emb.

4431 ♂ " " 246×73×30×7 testis 11 —

4432 ♀ Neotoma fuscipes 404×193×41×29 no emb.

1964
Season

Tilden Park, Contra Costa Co., Calif., Feb. 10

4433 ♂ Sorex ornatus — 98×35×10×8 — 4.1 g. skull only found dead. UT. large; not preg. neck hemorrhage.

Feb. 25

4434 ♂ Sorex ornatus — 88×34×12×8 — 5.9 g. ♂ testis 6 mm.

4435 ♂ " " — 94×37×13×7 — 5.5 g. ♂ testis 5 mm

Feb. 26

4436 ♂ Sorex ornatus — 99×35×12×7 — 6.5 g. testis 7 mm

Orinda, Contra Costa Co., Calif.

4437 ♂ Peromyscus californicus

Pearson, O. P.

1955–1966

Journal

California localities

1955

Journal

Dec. 3 Put out Beatty Calhoun lines across from Camp Mineral Springs in Tilden Park. This is his "Col. 3" area, line I being the east line. I shall number the stations from the north on both lines. Museum Specials, baited with peanut butter, < 5 ft. from the stakes. Night clear, cold, and windy. Traps set 3 p.m.

Dec. 4

Col 3 - I - 11	Reithrodontomys	♀	3 - II - 1	Reithrodontomys	♂
12	"	♀	7	Microtus	♂
14	"	♀	9	"	♂
16	"	♂	12	"	♂
19	Microtus	♀	14	Reithrodontomys	♂

Day clear. 6 Reithrodontomys 4 Microtus

Dec. 5 Night warmish + cloudy, light rain beginning about 7:30 a.m.

Col 3 - I - 2	Microtus	♂	3 - II - 1	Reithrodontomys	♂
- 5	Reithrodontomys	♂	3 - II - 9	"	♂
- 9	Microtus	♂	9	"	♂
- 19	Reithrodontomys	♂	10	"	♀
			12	Microtus	♀

6 Reithrodontomys 3 Microtus.

Dec. 6 Rain all day yesterday and most of night. a.m. foggy. Many baits washed away and many traps sprung - empty. Decided to leave them out another day.

Col 3 - I - 2	Reithrodontomys	♂	3 - II - 1	Reithrodontomys	♂
5	"	♂	4	"	♂
6	"	♂	11	Microtus	♀
7	"	♀	12	"	♀
8	"	♀	16	Reithrodontomys	♂
15	"	♀	17	Microtus	♀
			18	Reithrodontomys	♂

= 10 Reithrodontomys, 3 Microtus, + 5 Trituruus and 1 Sorex

1955

Dec. 7 Yesterday was clear, the night clear & frosty, morning clear.

Cal 3-I-2	♂	Reithro	3-II-1	♂	Reithro
9	♂	Reithro	-1	♀	Reithro
12	♂	Reithro	3	♂	Reithro
19	♀	Reithro	10	♂	Reithro
			18	♀	Reithro
			19	♀	Reithro

total 10 Reithros.

Don Roberts ran the Calhoun lines on Brant's 28-acre area (Cal 1) using 2 Shermans and 1 can trap at each station, 2mm flower seeds, mice held until 4th day, then released. Numbering of stations from W end.

Dec. 7 Cal 1-I

no.	body length	sex	age	species	trap	
Cal 1-I-5	120	♂	A	Pero. Calif.	can	
9	68	♂	A	Reithro	can	(previously tagged)
13	68	♀	A	"	"	" "
17	73	♂	A	"	Sherman	" "

1 Sherman sprung empty Sta. 8

Cal 1-II-2	68	♂	SA	Reithro	can	" "
2	53	♂	imm.	"	Sh	not tagged
3	75	♀	P.O.	"	Sh.	previously tagged
4	65	♂	SA.	"	Can	" "
5	75	♀	P.O	"	"	" "
7	70	♂	A	"	Sh	" "
13	70	♀	P.O.	"	Can	not tagged
17	68	♀	P.O	"	"	" "

1 can (Sta. 18) and 1 Sherman (Sta 6) sprung empty

1955
1953

Dec. 3 Col 1

no.	body length	sex	age	species	Trap	
Col 1-I-1	60	♂	imm	Reithro	Sh.	pen. tag.
2	66	♂	A	"	Sh.	"
5	66	♂	A	"	Sh	"
9	70	♀	P.O.	"	Can	"
13	69	♀	A	"	Sh.	"
15	75	♀	P.O.	"	Sh.	not tagged

no offspring - empty

Col. 1-II-3	—	—		spotted towhee	can	
4	67	♂	A	Reithro	can	pen. tagged.
6	65	♂	A	"	can	" "
7	67	♂	A	"	can	" "

no offspring - empty

Dec. 4 Col. 1

Col 1-I-1	67	♂	A	Reithro	Sh.	pen tagged
5	121	♀	A	Peromyscus calif.	Sh.	" "
5	65	♀	imm	Reithro	Sh.	" "
7	69	♀	A	"	can	" "
9	57	♀	imm	"	can	" "
15	64	♂	imm	"	Sh.	not tagged
15	—	—		plain titmouse	can	
Col 1-II-1	65	♂	S.A.	Reithro	can	pen tagged
5	60	♀	imm.	"	can	" "
7	70	♀	P.O.	"	Sh	" "
12	63	♂	imm.	"	Sh	not tagged
14	65	♀	S.A.	"	can	" "
17	72	♀	P.O.	"	can	" "

Shrews at sta. 1 offering empty.

1955
1956

Dec. 5 Cal. 1	Sex	Body	Age	Sheath	Tail	
Cal 1-I-1	67	♂	A	Reithro	Con	prev. tagged
9	67	♂	A	"	Lh	" "
Cal 1-II-2	60	♂	imm.	"	Con	" "

3 Reithro

2 Sherman failed to spring at II-15

March 22 Don Roberts ran Calhoun line on Brant's 28-acre area, Sherman + tin can traps, sunflower seed bait, ~~4~~ since field capture 4 days, then released

Cal. 1, March 19, cloudy tag # upkill end of each line is #20

Cal 1-I-1	♀ Reithro	2485	Cal. 1-II-4	♂ Reithro	1628
1-I-2	♀ Reithro	1636	1-II-4	♀ "	untagged
1-I-2	♂ "	1670	1-II-12	♂ "	"
1-I-3	♀ "	1776			
1-I-4	♂ "	1778			
1-I-5	♀ "	1780			
1-I-9	♀ "	1766			
I-I-11	♀ "	1758			
1-I-12	♂ "	1742			
1-I-12	♂ "	untagged			

10 Reithros — — — — — 3 Reithros

March 20, clear night.

1-I-2	Reithro ♂	1670	1-II — none
1-I-11	Reithro ♂	1748	
1-I-12	Reithro ♀	untagged	

3 Reithros

1956
Pearson

March 21, clear night.

1-I-1 Reithrodontomys ♀ 1732 1-II none

1-I-2 " ♂ 1670

2 Reithrodontomys

March 22, closely night

none none

March 23 Remarks of Calhoun lines across from Camp Mineral Springs [Col. 3]. Museum Special baited with peanut butter, <5 ft. from stakes.

March 22, night somewhat cloudy, day clear — 0 mice

March 23, clear.

Reithrodontomys at 3-I-6 sex?

Reithrodontomys at 3-I-20 ♂ (a hundred one from dog Run.)

March 24, clear. — — 0 mice

moon 2/3 full.

1957
Forest

Nov. 24 50 Sherman in Orinda pasture overnight; oatmeal. Caught 1 Microtus and 9 Reithrodontomys. Banded and released the Reithrodontomys, none of them juveniles. Lush grass and weeds but almost no runways or other Microtus sign.

1957
Nov.

Nov. 28. Shasta Co. with Quayle et. al. Looked for gopher diggings along Redding – Burney road. Between Redding and Montgomery Creek saw only one collection of diggings; these in a green, grazed pasture. At Montgomery Creek found more in the big meadows and pastures near the school, east of the creek, but several good sets of mounds in a pasture near the center of town (south of road, west of creek). This was a green, grazed slope with pear trees and cow pies; turkeys + chickens scratching at gopher diggings. Soil red and coarse with some bed-rock + coarser, but easy digging with machete. Left 7 traps, noon.

More gopher diggings 2 mi. NE Burney. None seen between Montgomery Creek + Burney except in a vacant lot in the center of Burney. Set about 13 gopher traps 2 mi. NE Burney in grassy glades among yellow pine. Soil red, coarse, containing gravel, but easy digging with machete except for 1-2 inches of crust.

Nov. 29 noon. One gopher at Burney and 2 at Montgomery Creek.

1958

Orinda

Jan. 2 50 Sherman traps (oatmeal) in Orinda pasture at 4:30 p.m. yesterday. Fresh grass and weeds (mustard, thistle), about 4 shows with grass cuttings but few good runways. ~~It~~ Started to rain about 5 p.m; heavy rain during night but clear in a.m. Traps held 3 mus, 1 mole cricket, 11 Reithrodontomys, 2 shrews and 5 microtus including a big lactating adult and 3 pregnant juveniles (26-28 grams).

Mustard has been blooming for several weeks. It was a good acorn fall.

Jan. 3 1/2 trap count. Today 8 more Reithros and 6 mice.

Jan. 8 Some oats with seed heads showing

Feb. 14 40 Shermans in pasture and north pasture overnight; oatmeal; cloudy + some rain. Caught 2 shrews, 2 mus, 2 microtus, 10 Reithros (8 ♂♂ and 2 ♀♀). Lots of mustard blooming, some oats with seed heads but most not yet.

March 14 50 Shermans in pasture overnight; rain during night. some oats ripe but most not. much mustard seeding. Caught 3 microtus, 8 Reithros, 4 mus, 2 Sorex. Fairly abundant microtus sign.

May 30 50 Shermans above Simpson and Fitzgerald in Orinda overnight. Caught 7 Reithros, 7 mus, and 11 microtus. Wasn't much microtus sign. Vegetation drying up rapidly now, last of mustard in bloom.

1958

Col 3

July 1 Looked over the Tilden Park Calhoun area (not Brant's 20-acre area but the one where work is working). Lots of miscellaneous signs such as rabbit-nicked runways, droppings, and grazed vegetation. Numerous girdled mustard stalks etc. Saw only 2 Microtus and 1 Reithrodontomys. Many piles of green (poisoned?) grain at the base of the young sequoia trees.

Aug. 30 Put 40 museum specimens baited with peanut butter in the pasture at Orinda (5 p.m.). Numerous good runways and droppings. Lots of cover such as ~~thick~~ grass and thick weeds (mustard & thistle).

Aug. 31 Many traps sprung & empty at 9 a.m. Catch only 6 Mus, all near the Fitzgerald end of the line

1959

Jan 28 Orinda. Put 50 Sherman in pasture, 5 P.M. with oatmeal bait. No runways, no droppings, no cuttings or other sign of microtus seen.

Jan 29 Caught 3 Reithro and 3 Mus. all 3 Mus near Fitzgerald's.

Jan 31 Orinda. 50 traps in pasture. caught 3 Reithro and 2 Mus. no sign of mice.

Oct. 5 40 Sherman around pasture in Orinda, oatmeal. Caught 2 Reithro, 5 Mus. no sign of microtus

Oct. 8 40 Sherman overnight at Dog Run in Tilden Park. Wet drizzle. Caught 11 Reithro. no sign of microtus.

Oct. 14 Early rain in September (about 3") has caused grass & weeds to start up. Grass now about 4". Put 120 snap traps at 4-5 p.m. along the Calhoun line above the Tilden sequoia grove. Oatmeal bait. No microtus runways, droppings or cuttings.

Oct. 15 Weather unusually warm, full moon. Traps with no mice. a few spring. many bait-gone (sow bugs, silver fish, and ants).

Oct 16 Weather warm, full moon. Two Reithros and one Peromyscus maniculatus on lower line. Picked up traps.

Oct. 18 Put 110 museum specials along old Dog Run in Tilden Park (= Ninety Way) at 5 p.m. Peanut butter bait. No sign of microtus. Weather clear, cold.

Oct. 19 Four Reithros, one per. Pero maniculatus.

1959

Oct. 30 40 Hermans with oatmeal in Pasture at Orinda overnight. Caught 3 Anthro, 1 mike, 10 Mus. all traps were along northwest fence and then toward the northwest knoll, here nowhere near Fitzgerald chicken coops etc.

1960

Feb. 19 50 large Sherman baited with oatmeal in the Pasture at Orinda, more along Fitzgerald fence on southern half of upper fence. Good cover, some mustard blooming, some Microtus runways and cuttings. 3 P.M.

Feb. 20 at 8 a.m. traps held 2 Mice, 4 Reithro, and 12 Mus. Many others had been visited by Mus (and Reithro?).

Feb. 23 Put ~~35~~ small Sherman (oatmeal) in pasture at 4 p.m. along NW fence and parallel to it but 10 yds south.

Feb. 24 at 8 a.m. had 1 Microtus, 4 Reithro, and 19 Mus
at 5 p.m., same line, 1 Microtus, 3 Reithro, and 19 Mus
Left traps same place.

Feb. 25 at 8 a.m. had 11 Reithro, 1 Sorex and ~~2~~ Mus
at 4 p.m. had 2 Reithro and 8 Mus.
Picked up Sherman and laid out (4 p.m.) a Calhoun line from the edge of Howard's chaparral to the Fitzgerald's drive near Strong house. 60 Museum Specials in sets of 3 at 20-yard intervals, peanut butter bait.

Feb. 26 Ran "Calhoun" at noon: 1 Mice, 6 Reithro, and 9 Mus. No Mus at the NW end of the line, most near the NW fence of the pasture, and not many near the Fitzgeralds! Cool, scattered cloudiness
Distribution of catch by stations:

4	7	8	9	10	11	12	14	17
1R	2R 1Mus	1R	3Mus	2R	1Mus	1 mice 1 mus	~~1~~ 1R	1 mus

1960

Feb 27 Same Colbourn line at noon. Weather cool, partly cloudy. 6 Reithro, 6 Mus.

Station	7	8	9	10	11	12	13	17
	1R	2R	1R	2 Mus	2 Mus	1R 1 Mus	1R	1 Mus

Station 8 is NW fence of pasture and 15 SE fence

Feb. 28 Same Colbourn line at 2 p.m. Weather cool, partly cloudy. 1 Tarsha, 2 Reithro, 1 Minko, 5 Mus.

station 1	3	7	10	11	12	19.
1 Tarsha	1 Minko	1 Mus	2 Mus	2 Mus		1 Reithro
	1 Reithro					

Put 14 Sherman at 5 p.m in Flasher weeds and brushpile. at 9 p.m had 1 Mus and 1 Reithro.

Feb-29 Nothing more in Flasher traps
at noon put 34 Sherman oatmeal ocars lower part of pasture between NW fence and Fitzgerald dock fence. Cool but sunny. at 4 pm had 4 mus.

Mar. 1 at 7:30 a.m traps had 1 immature tarsha, 1 Mus, 1 Dog, and 9 Reithro. Cold + cloudy. Left traps in situ. at 4 PM 2 Minkotus, 1 Reithro, and 5 Mus and 2 Sorex

Summary of Colbourn [½] line

1	2	3	4	5	6	7	8	9	10	station
			1R			2R 1 Mus	1R	3 Mus	2 Mus	Dog 1
						1 R	2R	1R	2 Mus	Dog 2
1 Tarsha		1R				1 Minko			1 Mus	Dog 3

1960

11	12	13	14	15	16	17	18	19	20
1 mus	1 mus 1 mikes		1 R			1 mus			
2 mus	1 R 1 mus	1 R				1 mus			
2 mus	2 mus							1 R	

Σ of ½ Caliber: 2 mikes, 14 Rattles, 20 mus, 1 Tarich.

Moved traps (34 Shermans) at 4 pm to along Fitzgerald fence and across top fence of pasture. also about 7 down through the good mus line at top of pasture.

1960

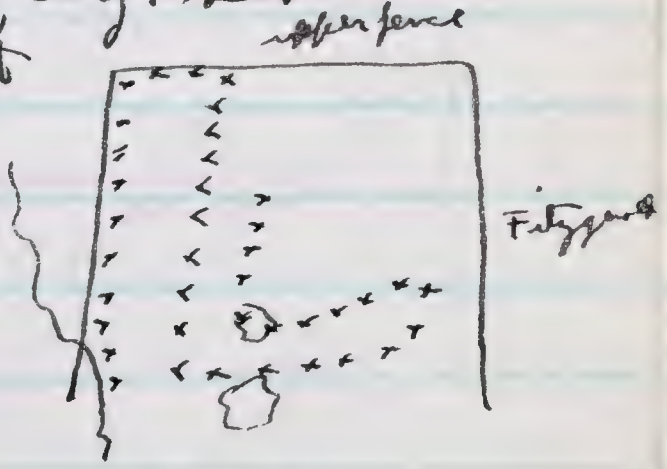
March 2 Night cold, mostly clear. Traps held 1 Sorex, 13 Reithro, and 11 mus.
at 4 P.M. same live held. 4 mus and 2 Reithro Day cool, light clouds. moved traps to 2 vertical lines on left side of pasture.

March 3 ~~clear~~ night clouded up, wee drizzle in A.M. at 8 am traps held 15 Reithro, 2 microtus, 4 mus. One of the small Sherman held both a large microtus and a mus — both alive.

at 5 P.M. set 12 Shermans on Barry property (corner Honey Hill Rd + river Rd). Tow grass, weeds, and young Baccharis. cover not nearly as good as in the pasture. also 15 Shermans on the Elkinton-Koelsin lot on Honey Hill Rd. Pretty good grass + weed cover.

March 4 No catch on Barry lot; 1 microtus and 1 mus on the Elkinton lot. Night cloudy, wee drizzle.

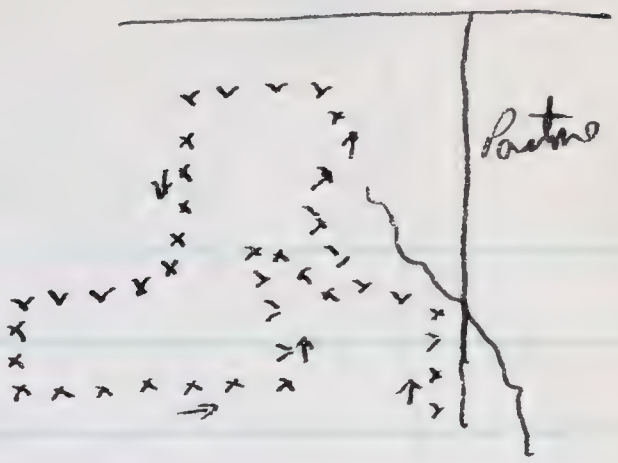
May 3 Rain last night, cloudy most of day. Set 96 Shermans baited with oatmeal at 4 P.M. in pasture. Rich grass, lots of cuttings, runways, and droppings.



May 4 8 a.m. ~~12~~ 13 mus, 4 Reithro, 4 microtus. night clear.
5 P.M. ~~1 mus.~~

May 5 Same line. 4 mus, 6 Reithro, mink. also 3 of yesterday's Reithros recaptured. Picked up traps.

1960



May 8 Put 90 Sherman in field north of pasture at 2:30 p.m. Grass especially tall + thick this year. Oats not quite ripe.

May 9 caught 7 Mice, 7 Reithro (2 of them banded previously), 2 juvenile Peromyscus, and 5 Mus. One Reithro was torpid, scratched around face, in same trap with Microtus.

May 10 Same line, 8 a.m. 8 mice, 1 Pero juv., 6 Reithro, and 8 Mus.

moved line at 7 pm to along Fitzgerald fence and top fence.

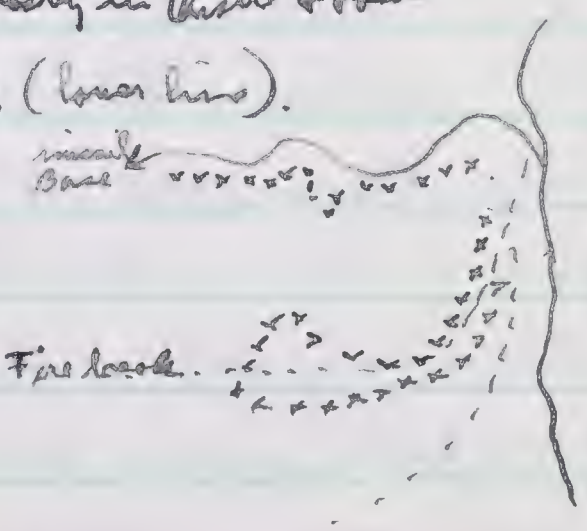
Only 48 traps

May 11 at 8 a.m. had 8 Mice, 6 Reithro, and 6 Mus.

May 12 " " " 10 " 4 " " 11 "

Put 90 Shermans in the Inspiration Point – Mineta triangle in Tilden Park at 5 p.m. Mostly in thistle + oats below Mineta Rd and along firebreak (lower line).

May 13 at 9 a.m. traps held



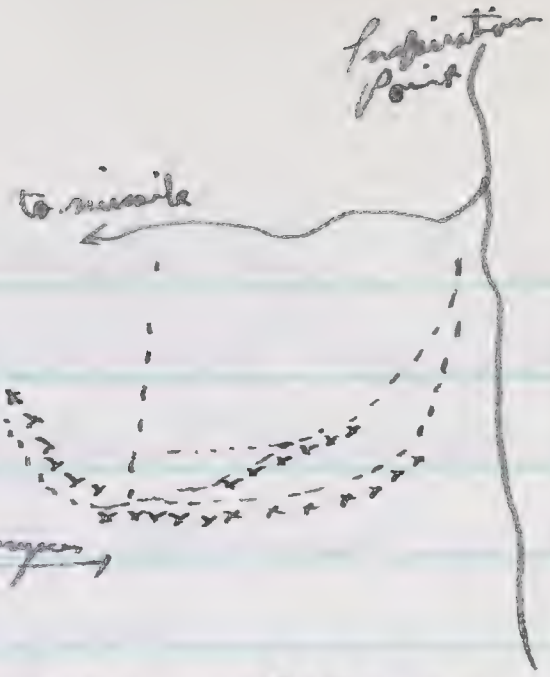
	Upper line 42 traps	Lower line 48 traps
Peromyscus	4	4
Mus	2	0
Microtus	0	1
Reithro	14	4
Sorex	1	0
Soricidae	0	2

Σ = 72

May 14. Same lines, 9 a.m.

Pero	5	3
Mus	0	0
Mice	0	0
Reithro	6	5 [+ 5 repeats and 2 dead]
Sorex	2	0
Sorex	0	0

1960



May 16 Put 95 Sherman traps in Tilden - ninety triangle along lower fireback, 7 p.m.

May 17 Caught 15 Reithro, 7 Peromyscus and 1 mus.

May 18 Same line: 10 new Reithros and 4 marked ones, 7 Pero, 1 microtus, and 3 Perhaps Dipodomys.

May 19 Same line. 6 new Reithros and 5 marked ones. also 8 Pero, 1 mikie, and 2 Perhaps Dipodomys and 1 mus. Grass drying out rapidly last 2 days. 10 traps buried by fire-break bulldozer.

~~May 20~~ moved line further down toward playing field; 86 traps

May 20 No microtus sign. Caught 4 Reithro, 5 Pero, 1 mus.

May 21 Same line. 7 Reithro, 8 Pero, 1 Perhaps Dipodomys.

May 22 ~~Picked up~~ Put 86 Sherman traps on at School. This is the 30± acre field trapped a few years ago when it was thick tall mustard, thistle, etc. Then it was cropped bare. Now mostly shorter weeds, some grass but little oats; cornin + mustard in a few places. Set at 8 p.m. Heavy microtus sign with many runways, weed cuttings, droppings, whitewash, + holes. Saw half-dozen microtus while setting, weather clear, cold.

May 23 Rain started early a.m. Traps held 7 Reithro, 10 mikie, and 9 mus. many of the mikie were juv. Heavy rain during morning.

Set 85 traps in ungrazed 8± acres NW of Charles

1960

Hill Rd - overpass. much microtus sign. In some places they have eaten the habitat almost bare, with lush grass nearby. Especially devastated are old mustard "forests" in which there is no replacement, or replacement by sparse, heavily-cropped grass.

may 24 Traps held 1 Reithro, 3 shrus, 24 Mictus. night was partly clear, but rain again about 7 a.m. Picked up traps at 5 p.m.; 14 more Microtus

aug. 19 14 Sherman overnight in pasture caught 1 musc, 1 microtus, 1 Peromyscus, and 10 Reithro. Kept 3 Reithro for vibrissae study.

aug 23 at 3:30 p.m. put 92 Sherman at Gabriella cut-off above the road, centering near the cottonwood tree. Lots of microtus runways, droppings, whitewash, and piles of thistle blossoms. Saw about 10 microtus while setting traps. Picris is pretty well dried up, all through blooming, some of the big ones girdled. Lots of star thistle, much of it in bloom, with much mouse activity among it.

aug 24 at 9 a.m. traps held 16 microtus, 37 musc, and 17 Reithro. 3 of the Mictus (the only juvs) were dead or dying. most of the mictus very large, and tending to be in the dry outer rather than in the middle of the star thistle and Picris, where musc tended to be. some juv. musc and Reithro. Tagged the microtus & Reithro and clipped vibrissae.

at 4 p.m. put 92 traps at Clark Hill Rd. and Diablo Blvd (new prodrat), riddled with microtus sign.

1960
Pearson

aug 25 Ran traps 8–10:30 am. 2 Mus, 16 Reithro and 50 Microtus (12 of these cooked by ants). One of the Reithros tiny (46 mm). All the Microtus adults, none lactating, no open vaginas.

aug 27 Put 80 traps at Charles Hill Rd + Tunnel Rd, 4 p.m. Same line as aug 25.

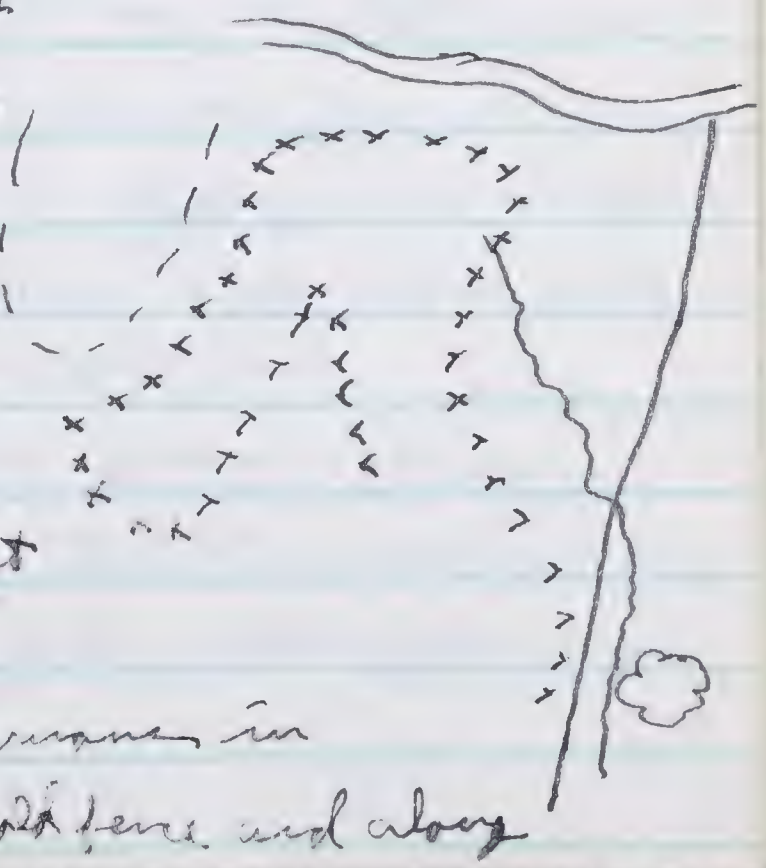
aug 28 Ran traps 7 to 9 a.m. caught 49 Microtus (including 10 recaptures), 7 Reithro (including 5 recaptures), and 3 Mus.

Sept 5. Put 90 Sherman in Pasture (Orinda)

to recapture Reithros tagged last spring and to clip vibrissae

Sept 6. Ran traps 7:30–9:30 a.m. About every trap sprung. 4 Microtus (all appear big adults), 52 Mus, and 23 Reithro. no recaptures although one with torn ear. Clipped Vibrissae on Reithros + Microtus. Kept Mus for dissection. Total ~~78~~ 79 mice. This is about same trap line as May 3–5.

Sept. 7 Put 90 traps in field north of Pasture; 5 to 6 p.m. Same line as May 8.



Sept 8 at 8 a.m. traps held 49 Mus, 2 Microtus, and 16 Reithro, total 67 mice. Clipped vibrissae on Reithro and Microtus, kept Mus for dissection.

Oct 7 Put 48 Shermans in Orinda pasture along Fitzgerald fence and along

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Pearson

the fence at the top of the pasture. Same line as on May 10.

Sept. 9 Ran traps 7:30 to 8:30 a.m.: 4 Reithro and 38 mus. Total 42. Clipped vibrissae of Reithros, left mus for dissection.

Sept 12 13 4:30-5:30 p.m. put 90 Sherman at Glorietta Pool (above Martha Rd), same line as Aug. 23

Sept 13 14 at 8 a.m. traps had 46 mus, 12 Reithro, and 12 Microtus. Of the 17 Reithros + 13 Microtus tagged on this line Aug. 24, recaptured only 1 Reithro and 2 mice. Total 70. Left traps out.

20 at 4:30 p.m. traps held 5 Microtus [one tagged] and 11 mus. all cooked by sun.

Sept. 14 Same traps line held 61 mus, 8 mice, and 6 Reithro total 75.

Put 92 traps in Tilden Park (Ninety Triangle) at 4 p.m. Saw 2 Reithro or mus while setting. about same line as May 12.

Sept. 15 Ran traps 9 to 11 a.m. 33 mus, 26 Reithro, and 12 Peromyscus maniculatus. No Microtus and no sign of Microtus. Killed mus, Reithros released for vibrissae stubs. Moved traps to lower fire break at 11 a.m. Cloudy-windy. Total 71 mice.

Sept. 16 Traps at 9-10 a.m held 30 Reithro, 10 mus, 7 Peromyscus maniculatus, and 1 Microtus. Total 48. Picked up traps.

Sept. 18. Put 92 traps at Charter Hill Rd overpass, 7 p.m., same line as Aug 24 and 27.

1960

Sept 19 Ran traps at 8-9 a.m. Kept all Mus + Reithro and the tagged microtus, but released 20 untagged microtus Total catch 36 microtus, 18 Reithro, and 4 Mus. 14 of the microtus and 4 of the Reithro were tagged over. Left trapsout.

Ran traps at 4 p.m. 42 Microtus and 1 Reithro (dead). 28 of the microtus were cooked. Set rats 19 ♂ and 22 ♀. Left traps out. 9 of the mice were tagged over.

Sept 20 Ran traps 8-10 a.m.. 41 microtus, 9 Reithro, and 6 Mus, 4 of the mice and 3 of the Reithro were tagged over. Picked up traps

Put traps out (92) at 5-6 p.m. along wartha Road near Bloomfield School, Oneida. Most of the line grew star thistle. Almost same line as May 22

Sept 21 Traps at 8 a.m held 16 Mus, 6 Reithro, and 35 Microtus Total 57. Vibrissae clipped Mice + Reithro.

Picked up traps and put them in Munity Triangle at 5 p.m. about same line as may 20.

Sept 22 Caught 49 Reithro, 10 Peromyscus maniculatus, and 8 mus. Total 67. moved traps to further down toward playing field. Picked up carnivore scats along fire breaks.

Sept 23 38 Reithro, 1 Microtus, 6 Peromyscus maniculatus, and 6 Mus. Picked up traps.

Put 90 traps at Charles Hill Rd. with Canastota High School students at 5 p.m.

Sept 24 at 7-9 a.m. caught 13 Reithro, 1 Mus, and 31 Microtus. Tagged + released all. Total 45.

1960

Sept 25. Put 8♀ Sherman in pasture at 3 p.m. Hot.

Sept 26. at 8 a.m. 3 microtus (released), 5♀ mus (killed) and 12 Reithro (killed). Total 74. Three of the Reithro were of 23 tagged on Sept. 6. Left traps out. at 5 p.m. had 3 microtus and 13 mus. Released microtus, killed mus. Left traps out.

Sept 27 at 8 AM traps held 3 microtus, 44 mus, and 15 Reithro including 7 obvious recaptures and 1 recapture from trap. Total catch 62 mice. Kept Reithros and mus; released microtus left traps out. at 5 p.m. traps held 2 mus and 3 microtus

Sept 28 Some line, held 6 microtus, 11 Reithro, and 25 mus. Released all except for 1 tagged Reithro. Total 42.

moved traps at 5 p.m. to field north of pasture, same line as May 8 and Sept. 7.

Sept 29 at 8 a.m. traps held 6 microtus, 31 mus, and 12 Reithro. Total 49. Kept mus and Reithros. Only 2 of the Reithros were tagged ones. Left traps out.

at 5 p.m. traps held 3 mus and 2 microtus. added 2 ♂ museum specials to end of line, closely spaced (4 yds).

Sept 30 Picked up traps. 9 microtus, 36 mus, and 16 Reithro. Total 61. Released all mice and mus, kept all except 4 Reithro.

Oct. 2 Put 66 Shermans across bottom of Orinda pasture, up Fitzgerald fence, and across fence at top of pasture. 5:30 p.m.

Oct 3. Full moon. at 8 a.m. had 2 microtus, 33 mus, and 23 Reithro. Total 58. Kept mus + Reithro.

In p.m. at 5 p.m. traps held at least 3 microtus and 6 mus. Saw 2 boys release at least 3 mice. Left traps out.

Oct. 4 at 7 a.m traps held 37 Mmus, 10 Rattus, and 2 Microtus. Total 49. Picked up.

at 4 p.m Put 89 Shermans and 90 museum specials in Tilden Park, mainly triangle, same line as Sept 14. The Shermans baited with oatmeal, the MS with corn meal and set within 3 feet of each Sherman, sometimes alongside it.

Oct 5. Curious warm night, partly cloudy, sprinkler during day.

	Museum Specials	Shermans	Total
Rattus	40	37	77
Mmus	10	9	19
Peromyscus	1	5	6
Microtus	1	0	1
			103

The scrub-trapped mice were already stinking at 10 a.m. many caught by tail + still alive. many museum specials shrimp-empty. Released Pero but kept all others. Left traps out.

Oct. 6. Some rain (first of this season) during afternoon yesterday and night. Light rain until about 11 a.m. Traps held 7 Geerhoratus, 1 Microtus, 9 Peromyscus, 23 Mmus, and 27 Rattus. Kept Mmus and Rattus. Left traps out

Oct. 7 28 Rattus, 14 Mmus, 11 Peromyscus, 1 Microtus, and 1 song sparrow. Total 54 mice. Moved traps at 4-5 pm to lower fire break. 50 Shermans and 50 museum specials set in pairs.

1960

Oct. 8

	museum alive	museum dead	Sherman	
Reithrodontomys	9	13	15	37
	Plus 3 tails and 1 foot			
Mus	2	10	3	15
Peromyscus	0	4	7	11
Dipodomys	1	0	0	1
	Total mice 63			64

Twelve Reithros were ear clipped + tagged 3 weeks ago and 2 were from last trap. Left traps out.

Oct. 9 Ran traps 9-10 a.m. Very blustery. 29 Reithros, 8 Mus, 10 Peromyscus, 1 Microtus, 1 Sorex. In addition, garter snakes were trying to swallow 2 Reithros caught by tail in museum specials. No Perognathus. Left traps out. Total 49 mice.

Oct. 10 Wind died in afternoon yesterday, but was windy all day yesterday. Traps at 8 a.m. held: 29 Reithros, 3 Mus, 5 Peromyscus, 6 Perognathus, and 1 garter snake. This was a big Thamnophis (28") caught in a museum special. Museum specials held many more Reithros than the Shermans. Only 1 of the 27 Reithros was a tagged one — and this one tagged last trap. Correction: also 1 other tagged one from 3 nights ago. Total 37 mice.

at 5 pm ~~—~~ set 88 Shermans at Charles Hall Rd. and Diablo Blvd (Tunnel Rd), Orinda.

Oct. 11 At 8 a.m. traps held 19 Reithros, 1 Mus, and 11 Microtus. 5 of the Microtus were tagged ones and 4 of the Reithros. Released the untagged Reithros, kept the

1960

Microtus for Quay. Lots of flies on Microtus

Ran traps at 2:00 PM. – 22 Microtus, 8 of them tagged ones

Oct. 12 at 8 a.m. 16 Reithrodontomys and 17 Microtus. None of the Reithrodontomys were tagged; all released ~~(illegible)~~.

Picked up traps at 2 p.m. (11 Microtus, 1 Reithrodontomys, saw 1 small golfer snake with bulge in middle). 2 of the Mice were tagged ones.

Put traps (85 Sherman) at Glorietta School below martha Rd. (same line as Sept 20), 5 p.m.

Oct. 13 at 8-9 a.m. 7 Mus (killed), 25 Reithrodontomys (killed) and 19 Microtus (to Quay). One Reithrodontomys tagged last year, and one 3 weeks ago; 7 Microtus tagged 3 weeks ago.

at 2 PM 15 Microtus (5 tagged) and 6 Mus.

Oct 14 8-9 a.m. 13 Microtus (1 tagged), 22 Reithrodontomys (1 tagged) and 9 Mus. Saw 3 cats hunting the area.

Oct 15 Picked up traps 1 p.m. 18 Reithrodontomys, 18 Microtus (2 of them tagged ones), and 12 Mus.

Oct. 17 at 5 p.m put 88 Shermans at Charlie Hall Rd. with Monmouth science students. Most sets by them. Many droppings scattered in field. Same line as Sept. 23.

Oct. 18 at 7 a.m. 2 Mus, 11 Reithrodontomys (3 tagged), and 9 Microtus.

at 1 p.m. 20 Microtus (2 tagged) and 1 Reithrodontomys.

Oct 19 Same line at 8-9 a.m. 6 Reithrodontomys (0 tagged) and 28 Microtus (0 tagged).

at 5 p.m. same line had 15 Mice, 1 Mus, none tagged.

1960

Oct. 20 Picked up Charlie Hill line at 8:30 a.m. 10 Microtus (0 tagged) and 3 Reithro (1 tagged). [87 Sherman]
At 5 p.m. put 88 Shermans and 88 museum specials in Tilden.

Oct. 21 at 8 a.m. traps held 84 Reithros, 6 mus, and 3 Peromyscus (1 of them tagged). 1 of the Reithros tagged last year, 19 of them tagged in Sept.

Oct. 22 Picked up traps at 8 a.m. Catch 48 Reithro (7 tagged; 26 released), 7 Peromyscus (1 of them tagged), 3 mus.

at 10 a.m. set 76 Shermans and 76 museum specials along lowest Tilden line.

Oct. 23 at 9 a.m. (wet drizzle) traps held 84 Reithro (10 of them tagged), 2 mus, 1 Peromyscus, 1 Microtus, & 1 Sorbonatus. Many snap traps with bait only, and many with mouse robbed. One snap trap with 2 Reithros; another with just an ear-tag lying on it. ~~Total catch 1 Microtus~~

Oct. 24 at 9 a.m. traps held 3 song sparrows, 61 Reithro, 8 mus, 3 Microtus, and 3 Peromyscus.

Oct. 25 Picked up traps at 8 a.m.: 47 Reithros (4 tagged, 23 of them released), 2 Microtus, 3 Mus, 1 Peromyscus, 1 Sorbonatus.

Nov. 10 First frost.

Nov. 11 First real rain storm of the season

Nov 21 Put 80 Shermans in Pasture at 5 p.m.

Nov. 22 at 8 a.m. 12 Reithro (5 tagged ones), 7 Microtus, and 13 mus
at 5 p.m. 2 Reithro (almost dark), 8 Microtus, and 10 mus.

1960

added 8 more traps to line *

Nov. 23 at 8 a.m. 23 Reithrax (1 tagged), 3 Microtus, and 10 mus. Released all except mus (as yesterday also) Picked up traps. 2 ♀ Microtus dead in traps were pregnant.

Nov. 28 Put 70 Sherman in pasture at 5 p.m. Lots of good runways.

Nov. 29 Traps at 8 a.m. held 28 Reithrax, 4 Microtus, and 14 mus. at 5 p.m. 9 Reithrax sic, 2 mice, and 11 mus. not dark yet, but 9 Reithrax! cold, sprinkles at 5 p.m. then rain.

Nov. 30 Traps at 8 a.m 34 Reithrax, 8 Microtus, 2 Sorex, and mus.

Dec 12 80 Shermans in pasture to tag Reithrax, 5 p.m.

Dec. 13 8 a.m. 28 Reithrax, 8 Microtus, 12 mus, 3 Sorex. Released all (except dead Sorex +2 dead mice).

Lots of excreta this year

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Feb. 28 Put 87 Sherman in Orinda Pasture at 5 p.m. Quite a few microtus runways. Mustard not blooming yet. Grass only medium height.

Feb. 29 at 8 a.m. 1 Sorex, 4 Mus, 13 Reithro and 15 Microtus. Seven mikes given to Davy. 3 of the Reithros were tagged ones and were kept, others tagged and released. Only one baby mike. The males (adults) in breeding conditions. Of 3 adult ♀♀, two of them preg (6+5 embryos) and one recently parturient; all with excessive numbers of large corpora lutea.

March 6 82 Shermans in Orinda Pasture and north, 5 p.m. considerable mustard in bloom.

March 7 at 8 a.m. traps held 1 Sorex, 14 Reithro (only 2 of them ♀♀), 1 mus, and 14 mike (5 dead). Tagged + released Reithros. [mikes 2 breeding ♂♂, 1 preg. adult ♀, 1 parous ♀, 1 preg? juv.?].

Put 59 traps in pasture (center) at 5 p.m.

March 8 at 8 a.m. traps held 9 Reithro, 5 mus, and 7 mike. 3 of the mike dead (1 breeding ♂ and 2 adult parous ♀♀ with lots of CL).

March 20 88 Shermans in left side of Pasture at 5 p.m. no oat seeds yet.

March 21 Lots of frost (as on most clear nights to date). Traps held 20 microtus, 0 Mus, 10 Reithros. Six of the Reithros already tagged. None of 3 ♀ Reithros had open vagina.

Of the microtus dead in traps: 1 juv. about 15 g., 6 males all breeding, 2 lactating females with bump embryos 5 and 6, 1 parous ♀ late preg 7 footnotes. Ovaries corpora lutea in all

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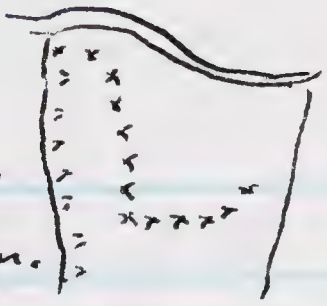
May 1 Put 79 Sherman in Pasture (Arida) at 5 p.m. mustard still flowering, grass and weeds still green. many meadow runways. Pasture is becoming more weedy.



May 2 6:30 a.m. Traps held 6 Reithrodontomys, 1 Mus, 1 Perognathus, 1 Scelophorus, and 26 Microtus. 12 of these dead in traps. Only one of the Reithrodontomys was unbanded, and it was adult. Fetuses in the dead Microtus 4,4,6,5. Line left out.

~~Line~~ at 7 p.m. Line held 3 Perognathus and 24 Microtus (12 of them dead).

May 3 Same line at 7 a.m. held 4 Reithrodontomys (all previously tagged) and 1 Mus, and 25 Microtus. Fetuses 6, 4, 4, + 8. Lots of corpora lutea, > 44 in one ♀.

May 8 Set the Calhoun line in Tilden Park across from Curtis mineral Springs (120 unmarked Specials baited with peanut butter, 2 p.m.). Weather clear & windy, grass still green, vegetation unusually lush. Lots of oats 4 to 5 feet tall near lower line, and some mustard up to 10 feet. Could only find a couple of the stakes. Lots of cuttings but not many clear runways.

also set 75 Sherman 3 p.m. along the upper line at Inspiration Point (worthy along windy Way below road). Lots of cuttings. Some of the weeds along the road and firebreaks have been sprayed with weed killer. It seems to have affected the mustard most (contorted stems) and the thistle slightly, but common hardly at all. not

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much killed yet.

May 9 at 8 a.m. mainly Wayline held 6 Rattus (all old, some of them mangey and decrepid), 1 torch, 5 Peromyscus maniculatus, and 19 Microtus. Tagged the Rattus, cleared mice, kept mus for dissection (21 mus)

Lower Calhoun line had 2 Rattus, 1 Microtus and 16 Mus. Upper line 3 Rattus, 9 Microtus, 1 Sorex, and 13 Mus. See dissection cards for mus. Smallest Microtus 23 gms Anim. ♀, a female with 6 new scars, 2 pregnant ♀ + 8 emb, rest ♂♂

~~May 10 light rain during night~~

May 9 (cont.). Picked up Sherman at 4 p.m: 19 Microtus and 5 Mus and 1 Peromyscus maniculatus.

May 10 Light rain during night. Lower Calhoun line at 8 a.m. had 1 Peromyscus maniculatus, 2 Rattus, 8 Mus, and 2 Microtus. Upper line held 1 garter snake, 8 mus, and 6 Microtus.

Of the Microtus, one was a 26-gram juv with 3 buried embryos, one a ♀ with 6 large embryos, rest ♂♂ (one of them a monster of 78.6 grams.

May 11 at 8 a.m. picked up Calhoun lines. Lower line had 3 Microtus, 3 Mus, and 3 Rattus. Upper line had 1 brush rabbit (about 150 grams), 3 Microtus, 6 Mus, and 3 Rattus. Slight brief rain during night.
Smallest mice was a ♂ 14 grams. One other ♂ and 4 female with 6, 6, 5, 5 embryos.

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Pelvicus

Summary of Calhoun Line:

	Reithro	Microtus	Mus	Scelo Scelo	Alligator lizard	Peromyscus maniculatus	Rabbit
Day 1	5	10	29		1		
Day 2	2	8	16	1		1	
Day 3	6	6	9	—	—	—	1
	13	24	54	1	1	1	1 Σ 95

May 17 Set 71 Sherman in Orinda at Gloriella School 5 p.m.; 50 above Martha Rd and 21 below the road. most of the meadow below the road, where Mus + Microtus were so abundant last summer, but poor cover now and few mouse signs. Set in fringe of thistle, mustard + weeds along road. above road quite a bit of sign but not especially fresh.

May 18 Trap above road held 11 Microtus, 5 Mus, 3 Reithro, and 1 Scelopoms. Below road 3 mice and 1 Reithro. Total 14 mice, 5 mus, 4 Reithro, and 1 Scelop. Numerous 20-25 gram microtus. Of 3 dead in trap, one large ♀ not preg (but pouch), 1 21-gram ♀ with completely juv. uterus. Only one of the mus a juv.

at 5 p.m. set 87 Sherman at Charlelot Hill Rd overpass, typing at stable + corral. Grass lush and not at all dry yet; mustard in full bloom, 6' to 8' tall. Some runways, lots of cuttings.

May 19 Considerable rain during night and a.m. plus thunder. Trap at 8:30 a.m. held 21 Microtus, 1 mus, and 2 Reithro (both old). In view of the high Microtus

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catch and relative scarcity of good runways, seems that the high population can't keep up with rapid growth of the grass. 11 of the micrutus were dead in traps: 5 ♂♂, a 19½-gram ♀ with CL, 3 ♀♀ with uterine scars, 2 with embryos (6 + 3).

may22 at 3 p.m. put 87 Sherman in Tilden vicinity triangle, lowest line toward Brant's area, beginning at artichokes. Numerous cuttings but not many well-established runways.

may23 at 8:30 a.m. traps held 6 Mex, 12 Micrutus (all alive, saved for Quay), 1 Peromyscus maniculatus, 1 Pero truei, 1 Sorex, 1 Reithro, and 1 Scalopus. Kept the Reithro, an adult. no juv. Reithros yet this spring, although a few lactating ♀♀.

used traps at 4 p.m. to the lower line in vicinity triangle in Tilden (87 traps)

may24 at 8:30 a.m. 19 micrutus, 8 Mus, 3 Peromyscus maniculatus. no Reithro.

may26. at 6 p.m. set 38 Sherman in vicinity triangle in Tilden along firebreak closest to new Dog Run.

may27 Traps held 2 old Reithros, 11 micrutus, 3 Mus, 1 Pero maniculatus. Lots of mustard in full bloom.

may28 Put 86 Sherman in field north of pasture, 0 rain, at 7 p.m. lots of blooming mustard 5 feet tall. Weather cool + cloudy. full moon.

may29 at 6 a.m. traps held 33 micrutus, 5 Reithro (all old) and 5 Mus.

June 12 at 4 p.m. laid out a grid in Tilden between the two Calbourn lines across from camp mineral Springs. Ten rows 20 ft apart, 10 traps/stations in each row 20 ft apart:

firebreak 1

Row A 1 2 3 4 5 6 7 8 9 10 ↵

X ↵

B 1 2 3 4 5 6 7 8 9 10

N ← C etc. ↵

D ↵

E ↵

F

G firebreak 2

H

I 1 2 3 4 5 6 7 8 9 10 ↵

J 1 2 3 4 5 6 7 8 9 10 ↵

K 1 2 3 4 5 6 7 8 9 10 ↵

sequoia trees

("Golden anniversary grove")

no stakes at G because of firebreak

X = big redwood right A. Put 1+2 stakes at stations.

Firebreak 1 just scraped with roadscraper today. Firebreak 2 not scraped yet. Warm + sunny. Set flagging with oatmeal along rows A, B, C, D, E, I, J, K = 80 traps. Not many good runways or cattings.

June 13 Closed traps at 8 a.m.

Row A 4 mantus, 1 Gerbo	Row E 6 mice, 2 mus
" B 4 " , 1 mus, 1 Reith	" I 2 mice, 4 mus
" C 4 " , 2 mus	" J 0 , 4 mus, 1 Reith
" D 3 " , 5 mus,	" K 0 , 1 mus

Total 23 mice, 19 mus, 2 Reith, 1 Gerbo+mus

Tagged and released the Mus + Rattus, released the micrôtus
most of the micrôtus were smallish (20-30 gms. est.)
13 ♂ Mus : 4 ♀

at 4 P.M. opened up trap rows - lines A, C,
D, E, F, H, I, J. Temp. hot and dry, some traps too hot
to hold. mustard still blooming. = 80 traps.

June 14. night clear, calm, warm, no dew. already hot
at 7:45 a.m. when I ran traps.

Row A 5 micrôtus, 1 Rattus, 2 Mus	Row H 0 mice 0 R 2 Mus
" C 5 " , 1 " , 1 "	" I 3 " 0 " 2 "
" D 1 " , 0 " , 5 "	" J 0 " 1 2 "
" E 5 " , 0 " , 3 "	
" F 5 " , 0 " , 2 "	

Total 24 micrôtus, 3 Rattus, 19 Mus.
6 of the mice dead, next to fence, mostly smallish ones.
3 of the Mus recaptures, not tagged. all 3 Rattus juv.
Traps unset during day (hot).

at 4:30 P.M. opened rows A, C, D, E, F, and I = 60 traps.

June 15 night warm, no dew. Hot at 7 a.m.

Row A 3 micrôtus, 3 Mus	Row E 2 Mice, 5 Mus
Row C 5 micrôtus, 3 Mus	Row F 2 mice, 5 Mus
Row D 1 mice, 5 Mus	Row I 2 mice, 4 Mus

Total for 60 traps 15 micrôtus 25 Mus. 6 of the micrôtus
were dead, all in rows A and C. They weighed 34, 25, 22, 20,
15 and 12 g, none breeding. Released all others. Of the 32 Mus
tagged so far (on first 2 nights), only 3 were among the
20 caught last night. Smiths Lincoln Index → 213 Mus.

Pearson
1961
Tilden Park

Two of the reafters had newly born pups without tops.

at 5 p.m. set odd numbers above firebreak and all picket row I below firebreak. = 60 traps. Still hot

June 16 night warm, morning not as hot as yesterday; breezy; no dew. Run traps at 7:15 a.m.

Row A (odds) 4 mice, 2 Mus (a live meadow and live mus in some Sherman)
Row B " 4 " , 1 "
Row C " 3 " 2 "
Row D " 2 " 2 "
Row E " 1 " 4 "
Row F " 1 " 2 "
Row H (all) 1 " 6 "
Row J " 2 " 1 " , 1 Reithro
Row K " 1 " 0 0 , 1 Gerbootus

Total 19 Microtus, 20 mus, 1 Reithro, 1 Gerbo.
Microtus to Away. Mus + Reithro tagged. Four of the mus were tagged ones. Females index today $\frac{52 \times 20}{4} = 260$

at 5 p.m. (warm, sunny) set all even numbers = 50 traps.

June 17 night warm and clear in Orinda. at 7:15 a.m Tilden was in fog laying at Inspiration Point. much dew on grass, clothes soaked.

Row A 3 mice, 2 mus
Row B 3 mice 0
Row C 2 mice, 1 mus
Row D ● mice, 2 mus
Row E 2 mice, 1 mus
Row F 1 mus
Row H 1 mice, 3 mus
Row I 2 mus
Row J 2 mice, 0 mus, 1 Reithro
Row K 2 mus

Total 13 mice, 14 Mus, 1 Reithro.

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Today's Lincoln Index = $\frac{66 \times 14}{4} = 231$. Picked up all traps

June 19 at 5 P.m. set Rows A, C, E, H, and J = 50 traps. Hot + sunny.

June 20 Ran traps at 7:15 a.m. Clear, some dew but only at a few patches of perennial grass. Cloud traps

Row A 7 Microtus, 2 Mus
Row C 4 " , 4 Mus, 1 Zenkerotus
Row E 2 " 4 Mus
Row H 1 " 4 Mus
Row J 1 " 3 Mus

Total 15 Microtus, 17 Mus, 1 Zenkerotus.
Today's Lincoln Index = $\frac{77 \times 17}{3} = 436$

moved traps to rows B, D, F, I and K at 5 P.m. = 50 traps

June 21 night clear, no dew. Picked up traps at 7:30 a.m.

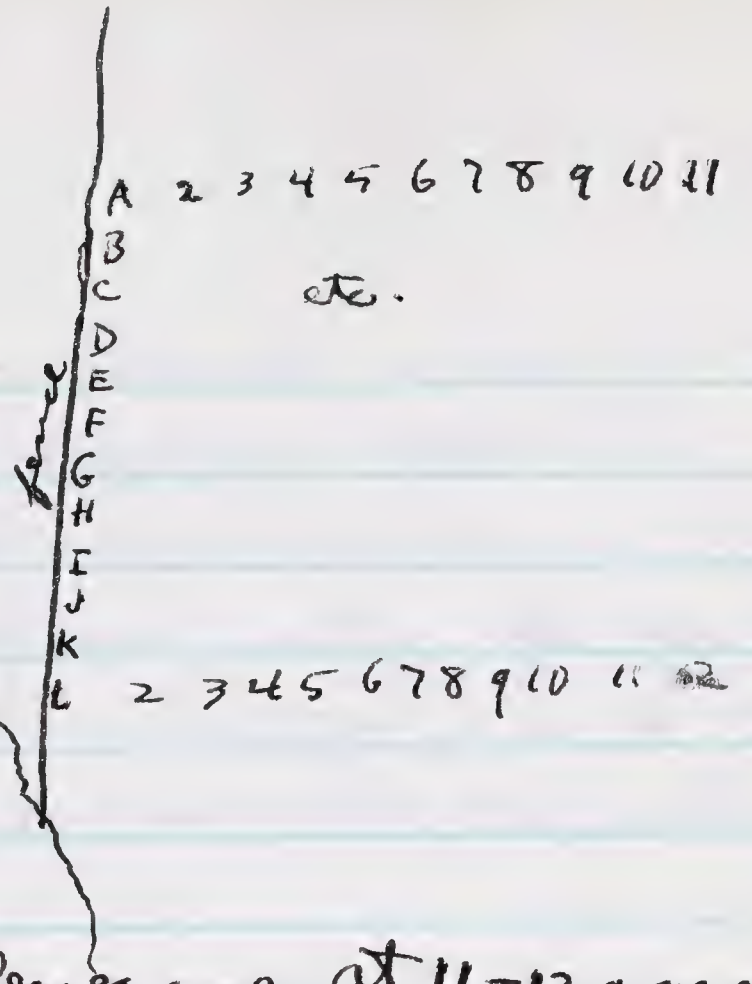
Row B 9 mice, 1 Mus
Row D 1 mice, 4 Mus
Row F 2 mice, 2 Mus
Row I 1 mice, 6 Mus, 1 Reithro
Row K 1 mice, 1 Mus

Total 14 Microtus, 14 Mus, 1 Reithro. Today's Lincoln Index (omitting 1 trapper) = $\frac{92 \times 13}{6} = 199$

Judging from the five Lincoln Index figures running a population of about 225 Mus. The grid area was ~~36000~~ 32,400 ft^2, and the average range (from 18 recaptures including 0 movement) was 30 ft. adding 30 ft to all sides of grid = ~~47,400~~ 57,600 ft^2 = ~~1.43~~ 1.32 acres or ~~143~~ 170 Mus per acre

32,400

Oviedo



June 22 Laid out a grid in Oviedo Pasture, 15-foot spacing, 12 rows of 12 traps. ~~at 11-12 a.m.~~ Sunny, cool. Lots of rumen, droppings, and urine. Mustard still blooming but mustard leaves gone. at 11-12 a.m. set rows B, D, F, H, J, and L = 72 traps

Ran traps at 2:45 p.m.: 12 *Microtus*, 6 of them dead in traps in spite of shade temps only 68° and traps at least partly shaded. Tagged + released

Ran traps again at 7 p.m.: 25 *Microtus* (4 of them dead) and 1 *Perognathus*, none of the *Microtus* were tagged ones.

June 23 night clear, slight dew. Ran traps at 7:45 a.m. 42 *Microtus*, 2 *Sorex*, 1 *Reithrodontomys*. Of the *Microtus*, 5 were tagged ones, 3 dead. Tagged and released all.

at 4 p.m. moved traps up to rows K, I, G, E, + A = ~~72~~ 60 traps. Warm, bright sun. Dressed *Microtus* dead in traps and none were breeding, not even big males + big females.

~~Opened traps at~~

June 24 Ran traps at 7:30 a.m.: 51 *Microtus*, nothing else. 12 of them were tagged ones. 13 of the 51 were dead (2 tagged ones). Row C inadvertently not set yesterday afternoon.

Day hot + sunny. at 8:30 p.m. opened up rows K, I G, E, C, + A = 72 traps.

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Oruba

June 25 Ran traps at 6:30 a.m. Warmish, no dew: 54 microtus. One of them dead, 15 of them tagged over. Released all.

Set traps at all odd numbers at 8 p.m. = 72 traps

June 26 Night clear, almost full moon, no dew. Ran traps at 6:30 a.m. 55 microtus and 1 mus and 2 mole crickets. 25 of the mice were tagged over (one of these and one other dead). Released all (tagged all).

moved traps to even numbers at 7:30 p.m. = 72

June 27 Night cool, almost full moon, breezy. No dew. Traps held 61 microtus and 2 mus. 40 of the mice were ~~trapped~~ tagged over; 11 of the mice dead in traps and 7 of these were tagged over. Released all without tagging any of the new ones.

Lincoln Index for last 2 days of trapping:

$$125 \times \frac{55}{25} = 275$$

$$154 \times \frac{61}{40} = 235$$

The area covered by traps is 27,225 ft.^{2} adding a margin of 22 feet (av. distance travelled by recaptured mice) gives 1.00 acres.

Dissected 39 microtus that were dead in trap on grid. Neither ♂♂ nor ♀♀ were breeding. Many of the adults with large encysted tapeworms in the liver. Many small ones under 20 grams; even one weighing 9 grams after it had been tagged for 2 days. Big males + females often bitten or mangey around the rump.

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July 1 Drinks Pasture. Davy came out at 5:30 pm to get some Microtus kidneys. We put 35 Sherman along bottom 3 rows of grid and 39 in field north of pasture. Ran traps at about 6:15 and 7:30. Hot. Caught about ~~35~~ 20 Microtus, about half of them dead in traps in spite of being shaded. at 9 p.m. there were 38 mice in the traps (all released). In other words, 74 traps in less than 1½ hrs caught 38 Microtus. Much scurrying, rustling, and gnawing sound at ± 8:30 p.m.

July 2 Carol + I worked Microtus in pasture from 7:30–8:15 a.m. No dew. as many as a half-dozen individuals visible at one time. Saw one "chase" and saw 3 different mice climb up into thistle stalks, cut off a leaf, and drop to ground.

I don't think there has been any dew for weeks.

July 3 Night cooled off markedly, but windy. no dew.

July 5 Set the Colburn lines across from Campbell Springs in Tilden Park. 120 Museum Special baited with peanut butter, 4 p.m.

July 6 Night clear, no dew. at 8 a.m. lower line had 5 Microtus, 4 Reithro, 20 Mus, 1 Pero maniculatus, and 1 Zapus. Upper line 18 Microtus, 6 Reithro, 12 Mus. Day hot and sunny. at 4 p.m. ~~Lower~~ line had 11 Microtus and 5 Mus, all stinky. Upper line 10 Microtus

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~~Tibbs Calhoun line~~

and 4 mice.

July 7 at 7:30 a.m. (night clear, no dew) lower line had 10 microtus, 8 Reithro, 16 mice, and upper line had 9 microtus, 5 Reithro, and 15 mice.

at 4 p.m. (hot + sunny) lower line had 5 microtus and 2 mice; upper line 5 microtus and 2 mice (discarded all these p.m. specimens)

July 8. night clear calm. Dew on greens of the Oriuda Golf Course but none on the trap lines at 6:30 a.m. Lower line 5 microtus, 3 Reithro, 20 mice; upper line 5 microtus, 3 Reithro, 17 mice, 1 bird leg, and about 10 traps robbed.

Summary:

		mice.	Reithro	mice	other
July 6	AM	23	10	32	2
"	PM	21	0	9	0
July 7	AM	19	13	31	0
	PM	10	0	4	0
July 8	AM	10	6	34	1
	Σ	83	29	110	3 = 225

None of these were tagged mice from the grid between the two lines.

The microtus were not breeding, had green vegetation in stomach, and hemorrhagic lungs.

Dissection of microtus that died in traps in very short time in the Oriuda pasture revealed

all with hemorrhagic lungs and with right auricle and right ventricle full of dark blood.

Watched mice in Orinda pasture at 8:30 pm., hot, calm. One horned owl perched on fence and 2 in one of the oak trees. These pestered by a sparrow hawk. An astonishing amount of scurrying, gnawing, and rustling at this hour. Sometimes a half-dozen mice visible at one time. Watched one eat the last remaining sprig of green grass for several feet around. Saw 2 others climb up into thistle stalks and eat green leaves of thistle, but not many green thistles remain. They climbed up about 1 foot and remained several minutes.

July 9 The life guard at the Sleepy Hollow Pool, Orinda, said that they picked 31 mice out of the pool this morning and that in one summer they averaged 18 mice per day.

July 18 Orinda. at 8-9 p.m. set rows A, C, E, G, I, and K of the grid in pasture. Lots of scurryings. a few thistles still green but not many. = 72 traps

July 19 Ran traps at 6:30 a.m.

Row A 9 mice; C 9 mice 1 cricket, E 8 mice; G 10 mice 1 Reithro; I 8 mice 1 R; K 9 mice 1 mole cricket. Total 53 microtus, 2 Reithro, 1 mus, 2 crickets. Several sprung empty. 18 of the microtus were tagged ones. Released all, tagged the Reithros and mus but not the new microtus. One tagged

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meriotus (1270 at C2) was still not over 20 grams and had molt pattern down middle of back.

Aug. 22 at 5 p.m. set rows A, C, E, H, J, & K of Tilden grid (Roscoe from Mineral Springs). Lots of white meriotus wine. Skowans, oatmeal bait. While I was setting, a Park ranger came along with a bag of poisoned grain. He was putting handfuls at the bottom of each young Sequoia tree. Some of the trees nicely girdled above the metal collar around the trunk. Weather cool clear. 60 traps

Aug. 23 Ran traps 8-9 a.m. Cool, clear, some dew.

Row A	5 meriotus,	2 mus.	0 Rattus
Row C	3 "	0 "	2 Rattus
Row E	2 "	1 "	1 "
Row H	2 "	2 "	3 "
Row J	3 "	4 "	2 "
Row K	1 "	1 "	5 "
	16	10	13 = 39 mice.

Only 1 of the mice (a mus) was a tagged one. Tagged & released to mus & Rattus, released meriotus without tagging. all mice were adult. Closed traps.

at 6 p.m. set rows B, D, F, H, I, J, & K = 70 traps.

Aug 24 at 8 a.m. (night clear, some dew, moon almost full):

Row B	3 meriotus,	2 mus,	and 1 Rattus.
Row D	3 "	2 "	2 "
Row F	3 "	2 "	2 "

Tilden Park

Row H	0 meriana,	8 mus,	0 Rattus
Row I	1 "	3 "	4 "
Row J	0 "	6 "	2 "
Row K	2 "	1 "	3 "
	12	24 "	14 = 50 mice

Of the 6 tagged Rattus caught, 1 was from June?, the other 5 from yesterday. Of the 2 tagged mus, one was from last June?.

Baited up about 2 gallons of carnivore scents.

~~Aug 25~~ At 6 p.m. set every other trap (Row A odd numbers, Row B even, etc.) = 50 traps [actually 51]

Aug 25 Morning foggy, no dew, grass limp but not wet.

Row A	4 meriana,	0 mus,	0 Rattus
Row B	3 "	0 "	1 "
Row C	2 "	1 "	1 "
Row D	0 "	2	2
Row E	1	2	0
Row F	5 "	0	0
Row H	1	4	0
Row I	1	3	1
Row J	0	2	4
Row K	2	0	1
	19	14	10 Σ = 43 mice

Of the 4 tagged mus, 1 was from last June. Of the 7 tagged Rattus, 0 from last June

Shifted traps to next station at 6 p.m. = 50 traps.

Cool + sunny.

Aug 26 Night clear in Orinda, foggy in Alden. Grass damp, but shoes + pants don't get wet when walking through it. Picked up more scats. Told now from grid and a few hundred yards of it is just 5 gallons of scats. at 8 a.m.:

Row A	4 Microtus	0 Mus	0 Rattus
Row B	3 "	0 "	1 "
Row C	3 "	0	0
Row D	0 "	2	1
Row E	1 "	0	1
Row F	2	0	1
Row H	0	5	0
Row I	1	3	0
Row J	1	2	2
Row K	0/15	3/14	2/8 Σ = 37 mice

Of the 6 tagged Mus caught, only 1 was from last June. Of the 6 tagged Rattus, 2 were from last June. Picked up the traps. all Microtus caught in part 4 days have been big ones > 25 gms, mostly > 35 g.

Tilden

Orinda

at 5 p.m. set rows B, D, F, H, J, & L in Orinda pasture = 72 traps. No ~~rye~~ swelling in grass, saw no mice, but still droppings and white urine in runways. Baccharis border girdled as much as 5 ft from ground. Did not see the horned owls, but saw red-tails and sparrow hawks. Picked up carnivore scats.

Aug 27 ~~night~~ morning cloudy but not cold. Traps at 8 a.m. held as follows:

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Orvieto grid

Row B	5 Microtus,	1 mus,	1 Reithro
Row D	5 "	1	1
Row F	4 "	0	2
Row H	2 "	0	4
Row J	4 "	0	3
Row L	4 "	0	2
	24	2	13 Σ = 39 mice

3 of the Microtus and 4 of the Reithros were ones previously tagged.

moved traps to alternate rows at 6 p.m. = 72 traps

Lot of birds to watch mice; heard some but saw none. Picked up 36 owl pellets under raptor roost. Pellets to be near the grid.

Aug. 28 Light cool. clear at 9 p.m. cloudy in a.m.

Row A	5 Microtus,	0 mus	3 Reithro
Row C	6 "	0	1
Row E	5 "	0	3
Row G	4	1	1
Row I	3	0	4
Row K	3	0	2
	26	1	14 Σ = 41 mice

of the 17 tagged Microtus caught, 5 were ones tagged last year. The mus was tagged last year. Of the 9 tagged Reithros caught, 3 were tagged last year.

At 5 p.m. set alternate traps such as Row A 1, 3, 5, 7, 9, 11 and Row B 2, 4, 6, 8, 10, 12. Forgot to do row L, hence 66 traps.

1961
Pearce

Orinda Pasture

aug. 29 Night clear at first, cloudy in a.m. Ran traps at 8 AM

Row A	5 microtus	0 mus	1 Reithro.
Row B	2	0	1
Row C	3	0	1
Row D	4	0	1
Row E	3	0	1
Row F	3	0	2
Row G	3	0	2
Row H	4	0	0
Row I	3	0	2
Row J	4	0	1
Row K	3	0	0
	37	0	12 = 49 mice

One microtus dead in trap. Note that of last several hundred? microtus catches (aug 22 to now) this is only dead microtus. They look in better shape than in June also. Of the 27 tagged microtus, only 4 were tagged last June. Of the 10 tagged Reithro, 4 were tagged before.

Tilden at 4 p.m. set 79 stations in Tilden Park near Inspiration Point – Mainly woody.

aug. 30 at 8 a.m. traps held 18 Microtus (released), 6 Baro microtus (released), 20 Reithro (saved), and 10 Mus = 54 mice. morning foggy & wet. yesterday afternoon was sunny, yet the ground under eucalyptus & pines was wet, even puddles of water in curved leaves.

Opened up 79 stations at 5:30 p.m., cool foggy and windy in Tilden, sunny in Orinda

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Aug. 31 Ran traps at 8 a.m. Foggy in Tilden, clear in Orinda. Traps held 24 *microtus*, 12 *Reithrodontomys*, 13 *mus*, 8 *Peromyscus maniculatus*, and 1 *Perognathus*. Picked up traps.

Dissected the 36 owl pellets picked up near the pasture a few days (Aug. 26) ago: 122 *microtus*, 5 gophers, 1 rabbit (brush), and 1 mole cricket. One ear tag: an adult ♂ *microtus* tagged at E 3 on June 26.

Sept 5 Set ~~80~~ 80 Sherman in Tilden Park below ninety way & Oakwood Lane.

Sept 6 Ran traps at 8 a.m. Orinda clear, Tilden foggy. 29 *microtus* (released), 19 *Reithro* (tagged & released), 1 *Pero mania* (released), and 23 *mus* (dissected). = 72 mice.

Opened traps at 5 p.m.

Sept 7 Same 80 traps at 8 a.m. (clear in Orinda, cloudy in Tilden) 33 *microtus*, 10 *Reithro* (6 of the recaptures from yesterday), 25 *mus*, and 2 *Pero maniculatus* = 70 mice

Sept 10 Picked up 8 large owl pellets and some droppings, plus about 2 dozen carnivore droppings at bottom of Orinda pasture. Some of the pellets & droppings new over, others old. The owl pellets contained 45 *microtus*, 2 gopher, a few mole crickets.

Sept 11 Picked up a couple of dozen carnivore droppings in field north of pasture and a few in pasture.

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Sept 14 Contents of carnivore scats picked up in Tilden Park near grid Aug. 26.
304 microtus, 28 mus, 15 Reithro, 3 lizards, 1 bird, 1 rabbit, 1 gopher, 1 Sorex, and 1 Peromyscus.
Only 1 ear tag (#1105, a juv. mus tagged June 20).

Contents of carnivore scats picked up near Orinda Pasture Aug 26. 89 microtus, 2 Mus, 1 Pero, 1 rabbit. no ear tags.

Sept. 16 First rain, beginning about 10 a.m.. 12 traps along pasture fence from about 3 to 5 p.m caught nothing.

Sept. 17 Set 28 Shermans and 6 snap traps in field north of pasture (Orinda) at 6 p.m

Sept 18. at 7:30 a.m (foggy, grass wet) traps held 9 Reithro, 0 microtus! One of the Reithro was a tagged one 1355

~~Sept 19~~: at 5 p.m set rows L, J, F, D, B and A in Orinda Pasture. I inadvertently omitted row H except for trap H1. = 73 ~~74~~ traps. a mus escaped from one of the traps as I was setting it, row J I think.

Sept ~~20~~ 19 Light clear, grass not wet. Run traps at 7 a.m.

	microtus	Reithro
Row L	3 (2 tagged ones)	1
Row J	2 (1 ")	3 (2 tagged ones)
Row F	4 (3 ")	2 (1 " ")
Row D	1 (1)	1 (1 " ")
Row B	0	2 (1 " ")
Row A	~~10~~ 5 (2)	~~4~~ 2 (1) + 1 mus

Oviedo

Total 15 Microtus (9 of them tagged over), 11 Reithrodontomys (6 of them tagged), and 1 Mus. I tagged the Mus but must have recorded it as a Microtus. Since Row A was not supposed to have been set, I didn't check it and found the 5 Microtus and 2 Reithrodontomys dead at 5 p.m. Traps were closed during the day.

At 5 p.m. set Rows K, I, G, E, C, and A = 72 traps. Picked up owl pellets and carnivore droppings, at least half were removed (since Aug. 26 and Sept 10).

Sept. 20 Ran traps at 7 a.m. clear. grass wet. no green yet.

Row K	3 mice	1 Reithro		
Row I	1 mice	2 "	1 cricket	
Row G	1 "	1 "		
Row E	2 "	1 "		
Row C	1 "	2 "		
Row A	1 "	1 "		

Total 9 microtus, 8 Reithro, 1 cricket. 6 of the mice were already tagged and 6 of the Reithros.

Yesterday's owl pellets contained 21 Microtus, 1 Reithro, 1 Mus, 1 rabbit, 1 pigeon, and 5 crickets.

Picked up one fresh pellet and some scraps. Saw Sparrow hawk sitting on phone wire holding mouse.

Set alternate traps at 5 p.m. (Row L 2, 4, 6, 8 etc, Row K 1, 3, 5, 9 etc.).

Sept. 21 Night cool, cloudy. Traps held:

Row L	3 mice			Row I	1 mice	1 Reithro
Row K	1 "	1 Reithro		Row H	1 "	1 "
Row J	2 "	1 "	1 cricket	Row G	0	

Mice earlier in trap, all Microtus in this sample were adult

Row F	2 mice	1 Reithro		Row C	1 mice
Row E	—	—	1 cricket	Row B	2 "
Row D	—	2 "	1 "	Row A	1 " 3 Reithro

Total 14 mice, 10 Reithro, 3 crickets = 27

10 of the mice were tagged once and 6 of the Reithros

at 5 p.m. moved traps to alternate numbers.

Left 22 Evening clear, almost full moon; morning cloudy

Row L	2 mice	1 Reithro		Row F	2 mice 1 Reithro
Row K	1 "	1 "		Row E	2 mice 0
Row J	0			Row D	1 " 0
Row I	0	1 "		Row C	1 " 0
Row H	1 "	2 "		Row B	0 " 2 " 1 cricket
Row G	1 "	0		Row A	1 " 2 "

Total 12 mice, 10 Reithro, 1 cricket = 23.

Picked up traps.

a Mr. Perry, who lives above the merry-go-round in Tilden Park, phoned or VZ because he had trapped a tagged mouse at the M-G-R. #1030, tagged as an adult ♀ on the grid across from Mineral Springs on June 14. not seen since. He has had more mouse trouble this year than in any of the last 8 years. Distance travelled = 3500 ft

Left 25 At 5 p.m. set first 8 rows of Tilden grid. = 80 traps

Weather hot and sunny. Saw 2 cats within 100 yards of the grid. Picked up carnivore scats. most of them conspicuous and obviously deposited since my last collection (in August 26). Some surely old ones overlooked before.

Tilden Grid

Sept. 26 Night warmish, moon just past full. Morning warm and sunny. Ran traps at 8 a.m. No deer

Row A	0 mice	2 Rattus	1 Sorex	Row E	4 mice	0	0
Row B	1 "	1 "		Row F	2 mice	0 Rattus	1 Mus
Row C	1 "	1 "		Row H	1 "	3 "	1 "
Row D	1 "	3 "		Row I	0 "	2 "	2 "

Total in 80 traps 10 mice, 12 Rattus, 4 Mus, 1 Sorex = 27

Picked up more scats. While running traps and picking up traps saw 4 cats at one time, another one later. at least 3 of these were different than yesterday ∴ 2, hence 5 or more cats are hunting within 100 yards of the grid.

Picked up 2 large owl pellets under the big eucalyptus amidst the sequoias. contained 3 mice and 1 bird. No rats.

The owl pellets from the pasture on Sept 20 contained 6 Microtus and 1 bird (pigeon?). No rats

all Microtus trapped this summer have been of adult size. no juveniles.

at 6 p.m set rows A, C, E, F, H, I, J, K. Because of darkness didn't set 3 traps (one each in rows K, J, and H) Missed row E this morning, have 4 dead mice this afternoon. Saw 2 or more cats and a horned owl. = 77 traps

Sept 27 Morning clear sunny. Saw 1 or more cats. Picked up many more scats on and near grid. Traps.

Row A	0 mice,	1 Rattus,	1 Mus, 1 cricket	Row H	0 mice,	3 Rattus,	3 mus
Row C	1 mouse	2 "		Row I	4 "	3 "	
Row E	2 "	0 "	1 " 1 "	Row J	0 "	2 "	
Row F	1 "	2 "	2 "	Row K	2 "	0 "	

Tilden bird

Total 4 mice, 14 Reithro, 12 Mus, 2 crickets = 32

Oct 4:30 p.m. set Row A nos. 1, 3, 5 etc, Row B nos. 2, 4, 6 etc. = 50 traps. Partly cloudy and cooler than yesterday. Picked up scats. Saw 2 cats and 1 garter snake near grid.

The rain of a week or two ago has caused some growth. A few seedlings are coming up among the ~~common~~ stalks (some look like mustard seedlings), and oats are sprouting in ditches along the paved road and in a few other places where the water was concentrated. I can see little effect out in the grassy hillside in Tilden.

Sept. 28 Ran traps at 8 a.m. Cloudy. A few sprinkles during night (puddles on road), but grass not wet.

Row A	1 mice	1 Reithro	1 Mus	Row F	2 mice 1 Reithro 1 mus
Row B	~~1 mice~~	2 "		Row H	1 " 1 " 3 "
Row C	1 mice			Row I	— 2 " 2 "
Row D	2 mice	2 "		Row J	1 " 1 " 1 "
Row E	3 mice	1 "		Row K	3 " 1 "

Total in 50 traps 11 microtus, 14 Reithro, 9 Mus. = 34

Kept Reithro 1027, tagged last June. Saw 2 cats. (also one heard and yesterday)

at 5 p.m. shifted all traps to next number. Saw 2 cats, 1 red-tail hawk, 1 sparrow hawk. Picked up more scats, total since Sept. 25 now 10 gallons of scats.

Sept. 29 Ran traps at 8 a.m. Cool & clear, dew on grass in Tilden. Trap line as follows:

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Tilden Grid

Row A	1 mike	2 Reithro	2 mus	Row F	1 mike	1 Reithro	2 mus
Row B	2 "	1 "		Row H	—	1 "	4 "
Row C	2 "	1 "	1 "	Row I	—	3 "	1 "
Row D	1 "	1 "	1 "	Row J	—	2 "	1 "
Row E	2 "	3 "	0 "	Row K	—	3 "	—

Total 9 mike, 18 Reithro, 12 mus. = 39. The mikes with many fleas

Concerning scats: The recent flurry of scat-collecting was more thorough than before, but covered same area. As many as half the scats might have been over not found on the august search. Nevertheless, the 5 gallons in August and 10 gallons now must almost all have been deposited since the end of the rainy season, in fact most of them since the firebreaks were scraped ending June 13. Unless the predators come from elsewhere to defecate (preferentially on my scat-hunting area, then the 15 gallons must represent the mammalian predator catch (minimum) since the rains on this area. In fact, should be a fairly close correspondence with end of breeding season. Hence the mice represented in these scats were not being replaced.

Scats from Oriole, Sept 11, contained 53 microtus, 1 rabbit, 3 mus, 1 Reithro, and one sorting to 1199 (adult mike tagged June 24 at A2). mostly adult mice.

Scats from Oriole Sept 19: 10 mike adult, 2 rabbits. Moved traps back one number at 5 p.m. Saw 2 cats.

Sept 30 Night deer. No deer on Tilden grass. Ran (picked up) traps at 7:30 a.m. Saw 3 cats.

Row A	1 mike	0 Rattus	1 Mus	Row F	3 mikes	1 Rattus	0 mus
Row B	1 "	1 "	1 "	Row H	1 "	2 "	
Row C	2 "	1 "		Row I	2 "	1 "	
Row D	1 "	2 "		Row J	1 "	1 "	
Row E	13 "			Row K	2 "		

Total 11 microtus, 11 Rattus, 6 Mus. Total 28

Overnight traps set near Inspiration Point at 5 p.m. last night were 3 mikes and 3 Rattus. Moved the 3 mikes for dissection

Oct. 6 During the flotation - incineration process being used to separate jaws and ear tags from carnivore scats, most of the mole cricketa are lost, and there have been numerous. Also lost are condoms; there have been at least 3 so far.

Cut sections of microtus lungs. Those listed as "hemorrhagic" at dissection show in slides large areas in which the alveoli, all alveoli, are filled with acidophilic fluid (blood?). Frequently 1/2 the area of a section across one lobe will be thus congested.

Judging from the small air photo in Grant's thesis, I have been picking up scats from an area of about 40 acres. My grid is about in the center of this area

Oct. 9 Owls. Picked up 6 owl pellets and a pint of scats north of pasture. Owl pellets = 29 mole cricketa, 19 microtus, 2 Mus, 1 Peromyscus, and 1 rabbit.

Oct 10. Watched a cat hunting in field north of Pasture. It caught 2 Microtus in 5 minutes; ate both.

at 4 P.m. picked up scats around Tilden Grid in anticipation of rain. Rather quickly covered the two main horizontal firebreaks and all of the sequoia trees.) Saw one or two cats and a sparrow hawk. Total about 1½ gallons, at least half of them nice + new.

Oct. 11 Covered most of the rest of the scat trails in Tilden at 10:30-11:30 a.m. yesterday's and today's total about 2½ gallons, at least half new (since Sept. 26). Saw 3 cats, 1 red-tail, and 1 sparrow hawk near the grid (all on the 40-acre scat area).

Oct 12 Dr DeOme looked at Microtus lungs slide and was impressed at the extent of the hemorrhages, and noted an abundance of Polymorphs in the larger blood vessels. Caught another microtus in the Turner's flower garden (presumably lots of water + greens) and it too had hemorrhagic lungs.

Oct. 19. Final score on the Sept. 26 Tilden carnivore scats: 966 Microtus, 106 Mus, 80 Reithro, 2 gophers, 18 lizards, 4 birds, 4 rabbits, 1 quail, 1 finch, many mole crickets. Only 1 ear tag (#1301, a 68-mm. ♂ Reithro tagged at K2 on Aug. 23 and recaptured Aug 24 (J1), Aug 25 (J1), Aug 26 (K2) Of these, 87 Microtus, 8 Mus, and 4 Reithro and 1 rabbit (+ mole crickets) were in scats picked up on the grid itself.

Oct. 21 Picked up 1 qt. of seeds on Tilden grid.

Oct. 23 Light frost last 2 nights in hollows. Picked up 2 qts. of seeds in Tilden, worthy along the only section of trail not covered on Oct. 10 + 11. Saw 1 cat and 1 red-tail.

In Oruda still hear great horned owls & owls. Killed coopers hawk chasing pigeons.

Measuring from an air photo taken 9/6/46, the area within my seed-collecting beat is 35 acres.

Oct. 25 Contents of pellets picked up in field north of Oruda Pasture on Oct 9: 15 microtus, 1 rabbit.

contents of pellets picked up in Tilden Park Oct 10 and 11: 276 microtus, 35 mus, 26 Perognathus, 4 lizards, 2 bird eggs, 2 skeens, 2 rabbits, many mole crickets. Included were 3 ear tags:

1109 ♂ Perognathus June 21, Aug. 26, (62 mm on June 21)

1284 ♂ Perognathus Aug 23 70 mm, Aug. 29, Sept. 27, Sept. 29

1464 ad. Microtus, Sept. 26, Sept. 29, Sept. 30

Looked at vegetation on Tilden grid. The seedlings that come up after the first rain are all gone. There are a few green spears of grass mixed in with the perennial grass.

Saw 1 cat on the Tilden grid

Oct. 26 Quite a sprinkling of green grass has come up in the lower left portion of the pasture in Oruda; Toward only the lowest line of the grid, and only the first few trap sites. Cats, horned owls, and screech

ands stall around.

Oct. 27 Drizzle off and on all day.

Oct 30 at 4 p.m. ~~set~~ set Rows A, B, C, D, E, F, H, I. = 80.
There is a scattering of green grass mixed in with the
dry. not a lot, but certainly a significant amount
from a ~~mouse~~ view. Saw 2 cats. Picked up scats

Oct. 31 Ran traps at 8.

Row A	0	0	0
Row B	2 mice	0 mice	1 R
Row C	1 "		
Row D	1 "		

Row E	3 mice	0 mice	0 R, 1 cricket
Row F	2 "	1 "	
Row H	3 "	2 "	3 R
Row I	0	1	3

Total 12 mice, 4 mice, 7 R, 1 cricket, = 24

Saw 1 cat, 1 sparrow hawk. all the ~~mice~~ mice with fleas.
Although there is still plenty of "cover" in the
dry grass areas, most of the catches are clearly made
in the cowpea, ~~mustard~~, mustard, thistle, and Bouteloua
"tall" cover.

at 4 p.m. set Calhoun Line across from Camp
Mineral Springs; museum specials, peanut butter, 120 traps.
also set grid Rows A, C, E, F, H, I, J, + K = 80 traps.
Saw 3 deer and 4 or 3 cats near grid. also, 2 striped skunks
dead on road near grid. Foggy.

Nov. 1 Foggy, damp in AM. Ran traps at 8. saw no cats.
Lower Calhoun Line 10 Mice and 7 Reithro. Upper Calhoun
Line 6 Mice, 3 Reithro, and 2 Microtus. On grid

Row A	2 mice	2 mice	1 Reithro
Row C	1 "	1 "	
Row E	6 "	1 "	

Row F	3 mice	1 mice	1 Reithro
Row H	1 "	7 "	2 "
Row I	0	1	4 " 1 cricket

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Tilden Calhoun + Grid

Row A 0 0 2 Rcithro. Row K 1 mike, 1 mus, 1 Rcithro

Total 14 mike, 12 mus, 13 Rcithro, 1 cricket = 40

Cloudy all day. Run Calhoun lines at 4:30 p.m.:
Lower Line 3 mus 1 song sparrow; upper Line 1 mus. Saw
1 cat. at 4 p.m. set grid traps: Row A nos. 1, 3, 5 etc,
Row B nos 2, 4, 6 etc. Total 50 traps.

Nov. 2 Run traps at 8 a.m. Foggy, grayness. Saw 1 cat, 3 deer,
and 1 Cooper Hawk. Grid as follows:

Row A	1 mike	1 mus	0 Rcithro	Row F	1 mike	0 mus	1 Rcithro
Row B	1 " (dead)			Row H	1 "	2 "	1 "
Row C	1 "	1 "	2 "	Row I		1 "	2 "
Row D	3 "	1 "		Row J			3 "
Row E	2 "		1 "	Row K		1 "	1 "

Total ~~8~~ 9 mike, 7 mus, 11 Rcithro = ~~26~~ 27

Calhoun Lower Line 2 mus 2 Rcithro; upper Line 0.

at 4 p.m. sunshining, but fog coming in at 4:30.
Lower Calhoun line 2 mus, upper 0. Saw 2 cats and
1 sparrow hawk. Set alternate traps on grid. = 50 traps

Have picked up seats on last 4 days. Did complete
coverage of the 35-acre area. Total is 1 qt. from the grid
itself and 5½ gallons from rest of the area.

Nov. 3 Morning scattered clouds; grass damp but not wet. Saw
2 cats ~~on the area~~ and a red-tail on the area; 1 cat just
off the area.

Lower Calhoun 3 Rcithro and 2 mus; upper Calhoun
1 meadowlark, 1 Rcithro, 1 mus. Picked up Calhoun traps.

Grid traps as follows:

Row A	0 mike	2 mice	1 Reithro	Row F	1 mike	0 mice	1 Reithro
Row B	1 "		1 "	Row H		2 "	2 "
Row C	1 "			Row I		1 "	2 "
Row D	2 "		2 "	Row J			1 "
Row E	2 "	1 "		Row K			2 "

Total 7 mike, 6 mice, 12 Reithro = 25 total

at 5 p.m. moved grid traps to alternate sites. = 50 traps
Saw 1 cat. Sunny.

at 4 p.m. set 30 Sherman and 98 museum Specials (peanut butter) along Minty Way line and lower lines.

Nov. 4 Row grid at 9 a.m. Sunny. 1 cat (white). Last night it was at Rock one.

Row A	1 mike	0 mice	1 Reithro	Row F	0 mike	0 mice	1 Reithro
Row B			1 "	Row H		3 "	1 "
Row C		1 "	1 "	Row I	1 "	1 "	2 "
Row D	3 "			Row J			2 "
Row E	1 "	1 "	1 "	Row K			2 "

Total 6 mike, 6 mice, 12 Reithro = 24 total (13, 25)

In the 98 museum traps: 15 microtus, 10 mice, 15 Reithros, and 2 Peromyscus maniculatus. In the 30 Shermans: 2 mike, 7 Reithro, 2 mice, 1 Pero.

Lots of carnivore droppings in the Minty triangle. Saw 1 cat along any trap that; many traps robbed.

Nov. 8 analyses of carnivore droppings:

Tilden Oct. 23: 93 microtus, 4 Reithros, 12 mice, 1 rabbit, 1 gopher, 1 lizard, 1 bird, numerous crickets.

Tilden Oct. 21 on Tilden bird perches: 28 microtus,

3 Reithro, 2 mus, 1 rabbit, 1 shrew, 1 ear tag #1045 (a mus tagged June 15 on Tilden grid).

nov 9 Put 68 Sherman in field north of Orinda Pastures; 5 p.m. No green vegetation except a few sheafs of perennial grass at lower corner of the field.

nov. 10 at 7:30 a.m. traps held 12 Reithros, 2 microtus, 1 mus, 1 cricket. Only 1 of the Reithros was a tagged one. Kept it, tagged the other Reithros. Released mice and mus without tagging.

nov. 14 at 2 p.m. set 12 traps (Sherman) at Ninety triangle. Saw 1 cat there.

nov 15 at 7 a.m. traps held 5 microtus and 2 Reithro. Only one of the five (a microtus) had hemorrhagic lungs. (Released 2 of dissected the microtus.*

Finished analyzing nov 1 carnivore scats from Tilden: 597 Microtus, 65 mus, 70 Reithro, 1 rabbit, 2 gopher, 1 bird, 1 Sorex, 4 lizards, 1 neotoma, many mole crickets, melon seeds, and 4 trap: 1317 ♂ mus aug. 24, 1426 od-microtus Sept. 27, 1507 microtus Sept. 29, 1518 Reithro ♀ Sept. 29.

Picked up 1 pint scats in Orinda north of pasture and 10 owl pellets containing 66 crickets, 14 microtus, 1 Reithro, 1 Vero, 4 gophers, 1 rabbit, 1 reptile

nov 19 Rain started in evening.

nov. 20 Rain most of night, about 1". First real storm of season, but scattered snow in morning

nov. 16 Picked up 2 qts of scats on Tilden area plus ½ pint on Tilden bird. These came from a quick cruise over most of the good trails and ¼ of the Sequoias. Saw 3 cats, 1 deer, heard horned owl. Found large amount of rabbit

nov. 21 Drove to San Bruno, south of San Francisco, with carl mohr, Darrell adams, and al Stumpf, to see the mohr-Stumpf study area: Chaparral with islands of grass and weeds. The grass and weeds (teasel, thistle) are not as lush as Tilden or Orinda this year, and it's a thin-leafed bunchgrass rather than oats. On one of their 2 areas they are catching about 30 microtus per 100 trap nights plus a couple of deermice, no mus. On the other area a few hundred yards away, with more Baccharis and Rhus, about 15 microtus and 15 peromyscus per 100 trap nights. They are getting a few weanling microtus now after no reproduction all summer. They say there were very few microtus last Feb.?, and consider the population to be building up - unlike Orinda and Tilden parks. We saw Deer; they have seen wildcat (a few weeks ago) and grey fox. Coyote may be there also.

nov. 24 Several showers in past few days. Drove to Tilden with family to look for tracks. not enough mud, so packed up ½ pint of pellets on the grid and 3 gallons around the grid. more than half of the 3 gallons were not on firebreaks, and so may not be recent. many of the oats are disintegrating already. saw 1 cat and 2 red-tails on the study area, and 2 cats in mint triangle and 1 cat along trapping point-Orinda road.

Horned owls still on Orinda area, and red-tails. cat seen regularly north of Orinda pastures

1961

Orinda grid.

nov. 26 at 4:30 P.m. put 6 q Sherman on rows B, D, F etc of the Orinda grid (forgot last 3). Considerable green grass at start of Rows K and L, and also Rows A, B, and C first 3 traps. Lots of tiny green mustard seedlings only a couple of days old. Ground damp. Picked up 1 pint scats.

nov. 27 Ran traps at 7:45 a.m. Only 6 Rattus, nothing else. 4 of them already tagged.

Picked up scats along Tilden fireteads and Lagunia. Fairly good coverage of the firetrails not covered on the 24th and repeats on some of them. Found almost all this collection fairly new. (1½ gallons) Scats still conspicuous in spite of rains. Some scats covered with white hairy fungus. Saw 3 cats on the area and another between area and Berglein Room.

Moved Orinda Grid to rows A, C, E, etc at 4 p.m. = 72 traps. Clear.

Shot a short-shinned hawk at Pigeon coop on Nov. 25 and saw a Cooper Hawk? in oak tree W of Pasture today, and also the cat (seen regularly still)

nov. 28 Morning cloudy light frost in hollows. Ran traps at 7:45 a.m; 7 Rattus and 1 Lorq. 6 of the Rattus were tagged ones. Left traps set.

at 3 p.m. nothing in traps, moved traps to alternate sites (Row L 2, 4, 6 etc, Row K 1, 3, 5 etc). Clear. 72 traps

nov. 29 Rain during night. Morning cloudy. Traps at 7:45 a.m. held 8 Rattus, 1 Lorq, 1 Musmus. The Musmus had 3 or more ticks on neck, shoulder, & back. In place of clear rumps, when released he wandered cross country

Pearson
1961

the rains have probably collapsed many of the runways, which may be important in changing home ranges.

Scattered light showers during the day. Shifted traps to alternate sites at 4/km = 72 traps.

Nov. 30 Rain during the night and still raining in A or. Ran traps at 7:45 a.m.: 17 Reithro, 1 Mus, 3 Mike. One of the mikes was yesterday's tagged one. Eight of the Reithros were untagged ones! maybe the rains have caused wandering?

Dec. 4 Picked up 2 gallons of scats on Tilden area plus ½ pint on the grid itself. Saw 3 cats on the area (white, grey, and black). Since I saw a yellow + white one on last visit, probably 4 cats or more are hunting on the area. Also saw a cat near upper end of Orinda - Inspiration point road. Approximately ⅓ to ½ of the scats were out in the grass in areas not covered before. Covered only a little over half of the firebreaks. Saw deer, dog, cat, and probably fox foot prints in mud. no skunk or raccoon.

Dec. 7 Orinda. Saw cat hunting (still yet) in field north of pasture, and heard hound bark.

Dec 14 While driving past saw 2 cats hunting in Mimosa Triangle in Tilden

Dec. 16 Picked up scats on Tilden area: 3 gallons on big area and 1 pint on grid proper. Saw 2 cats, 1 red tail, and 1 sparrow hawk on the area and 1 cat between Inspiration point and Dam road.

1961

also found 1 dead large microtus under one of the Eucalyptus trees on the Tilden area. Dissected it with jack knife on the spot: no contusions or obvious hemorrhages, liver OK, lungs hemorrhagic. I believe this is the only dead mouse found this summer + fall except for an old mummy.

Firebreaks had cat, deer, dog and maybe fox tracks. Lots of the droppings were fresh, although some, perhaps as many as ½, came from paths not covered for several months or from out in the open.

Dec 18. Arnida. Horned owls hooting.

Dec 22 Tilden, at 4 p.m. set 81 Sherman below Windy Triangle (lowest line, from artichokes down toward Playing field and part way back). Saw 2 red-tails, no cats, but lots of carnivore droppings.

Dec 23 Night one past full moon. at 9 a.m. traps held 10 Reithro, 6 Microtus, 2 Pero mavicinctus. Removed all, left Pero's. Left traps set all day and night.

Dec 24 at 8a.m. traps held 5 Reithros, 9 Microtus, and 3 Pero mavicinctus. Removed Reithros + mice, released Pero. Saw tracks of raccoon, cat, dog, deer, no fox.

Dec 26 at 4 p.m. set first 8 rows of Tilden Grid = 80 traps. Saw 1 cat. Past 2-3 weeks there have been numerous mole runs crossing the firebreaks.

Dec 27. Night cold, no frost. at 8:30 a.m. traps held 5 Reithro + 2 Microtus. Saw 2 cats on the area. Picked

Tilden Park

off seats: 3 qts on grid prosper and 3 qts on rest of area. about half of the latter "new" ones. 80 traps

Dec. 28 Morning cold foggy windy. 7 traps held 7 Reithro, 6 microtus, and 1 Mus = 14. Saw no cats, but cold and foggy. At 4 pm set every other trap = 50 traps. Saw 1 cat.

Dec 29 at 8:30 a.m. traps held 6 Reithros, 5 Microtus, 1 Mus. cold foggy and windy. Saw 1 cat.

at 4:30 moved traps to alternate positions (with not Howe, Harvey Rogers, + Peter Pearson) = 50 traps. Saw 6 cats all on the 35-acre scat area, plus one between Inspiration Point and Orinda.

Dec 30 Ran traps at 8:30 a.m. with Nat Howe. Cold, foggy, windy. 6 Reithros, 5 mice, 1 mus. Saw no cats, but poor visibility. Picked up traps.

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Pearson

Jan. 15 Picked up 1½ gallons of scats on Tilden area, plus about 6 scats on the grid proper. Saw 2 cats (1 white, 1 yellow). Weather has been clear and cold.

Many brush rabbits around home in Orinda. Larry Eastman on Valley View Road has seen as many as 15 on a 50 × 100 foot area in his back yard. I have shot 8 there in the past week, and there are still many left

Jan. 17 Orinda. Two horned owls near our house this morning at 7. Have been hearing them only occasionally lately. all nights long past week.

Jan. 18 Picked up scats in Tilden, 3 qts. Together with Jan. 15 this makes a complete coverage of the trails and sequoia trees on the area. Most scats must be new ones. Saw no cats but 2 red-tails.

Jan 23 We are currently in an extreme cold spell. Orinda temps. not extremely low but consistently cold. Berkeley officially 28° near altitude? low of 26°. Ground in Orinda is frozen solidly and stays frozen all day. Puddles along road in Orinda and at Inspiration Point have remained frozen for nearly a week; pipes ~~[illegible]~~ frozen at numerous residences. Snow in San Francisco.

at 5 p.m. set 80 Sherman in Tilden Park across from Camp Williams. Numerous good runways! and some fresh raccoon droppings! Saw

1962

1 cat (white) and 1 sparrow hawk on my area as I drove past.

Jan 24 Ran traps at 9 a.m.: 6 Microtus, 1 Reithro 1 Pero manicolatus, 4 Sorex ornatus. Saw 1 cat (white) on study area. One of the Microtus early preg. Left traps out.

Jan. 25 Did not check traps yesterday P.m. Ran traps at 7:30 a.m: 10 Microtus, 1 Reithro, 1 Pero manicolatus. Saw no cats on my area, from the road, but I shook about 200 yards down the road.

Set 82 shermans in Oneida pasture at 5 P.m. no fresh Microtus sign.

Jan 26. Ran traps at 7 a.m. Horned owl in oak in pasture. Ditto sparrow hawk. Caught 2 Microtus, 5 Reithro, 2 Sorex ornatus, 1 Sorex trowbridgei. Traps were (half of them) in field north of the pasture and half along the east fence at top of pasture, down the Fitzgerald fence, then across the bottom of the pasture. Saw a grey & white rabbit or guinea pig in weeds in middle of pasture.

at 5 P.m set 82 traps at Charles Hill Rd and Diablo Blvd. Last year's cover still lush. Quite a few scats laying around x Saw jack-rabbit here.

Jan. 27 at 7 a.m. traps held 3 Reithro and 1 Pero manicolata. Horned owls around home

Jan 30 set traps around stable and pigeon coop. Caught 2 Peromyscus trivi, 2 Mus, and 4 Reithro. One of the Reithros was # 1581 tagged Nov. 30 on the

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Pearson

grid across the creek.

A horned owl killed an opossum near the creek. I have now shot 11 brush rabbits in Eastman's back yard.

Feb. 2 Picked up scats in Tilden. Covered all trails except the ridge and around the sequoias. 2 qts along trails, 1 pt. in fields, and ¼ pt. on trails along grid. Saw 1 cat (rabbit + block potatoes) and 1 sparrow hawk.

Feb 5 Finished picking up scats on the trails in Tilden and around the sequoias: 1 qt. This makes complete coverage on Feb 2 + 5. also picked up 1 qt along the upper Calhoun line. This hasn't been picked up since the last Calhoun trapping on Nov 3. Saw 1 sparrow hawk, no cats.

Feb 6 Driving past Tilden area with Dave Paine saw one cat (almost all white + black + tawny spots).

Feb 7 Driving past Tilden area saw 1 cat (dark grey).

Feb 8-9 Lots of rain

Feb 10-15 Still lots of rain

Feb. 26 Set Calhoun lines in Tilden Park area from camp mineral Springs (calf-3) at 4 P.m. Clear but cold. a few runways, no cats.

Feb. 27 Ran traps at 7:30 a.m. Clear and cold, much ice and frozen ground. No cats. Lower line held 1 Microtus, 1 Reithrodontomys. Upper line 1 Sorex.

Picked up scats yesterday and today. almost complete coverage, 1½ qts., a few new ones but mostly before last rain

1942

Tilden Grid

Feb. 28 Weather clear & cold. Ran traps at 7:30 a.m. no mice, no cats

Feb. 29 Rain during late afternoon and evening. Ran traps at 7:30 a.m. 1 Sorex in lower line, nothing in upper line. 0 cats.

March 7 No rain — at last. at 4 P.m. set 80 Sherman on upper 8 rows of the Tilden Grid. Lots of green vegetation but not much sign of mice. No cats. Picked up ½ pint of seeds on grid trapper.

also set 90 Museum Specials with peanut butter along 1st line at Inspiration point. saw 1 microtus while setting and a few other signs.

March 8 Clear, dew, no frost. Grid 0 mice. no cats. On the Inspiration point line 1 Sorex and 1 Microtus. The shrew early preg. & embryos. Left the grid traps and the mainty traps open all day (cool, sunny). Ran grid at 4 p.m. no mice. saw 1 cat on the area (black & brown). Watched him for about 20 minutes while he covered about 300 yards in a V-shaped course. He kept moving most of the time; no pounces.

March 9 Ran traps at 8 a.m. Clear & windy. Grid had 1 shrew and 1 untagged Reithro. The 90 museum specials along mainty way held 3 microtus, 1 Reithro, 1 Sorex, and 1 Peromyscus maniculatus. Left grid set.

March 10 Ran grid at 8 a.m. Clear, windy. One untagged Reithro, 1 live Sorex, 1 jerusalem cricket. no cats. Picked up traps.

March 12 at 4 p.m. set 75 Shermans on steel wedge shapes (common + mustard) at end of Barbara Rd in Orinda. Cool, sunny. a few holes that look like meadowtrap

March 13 at 8 a.m. (sunny, frost) traps held 3 meadowtrap, 19 Reithro (sic), 3 Mus (1 Peromyscus) and 1 Sorex ornatus. 1 mike hectoring, nothing else busy. Left traps set.

March 14 Ran traps at 8 a.m. clear, light frost. 3 meadowtrap, 8 Reithro, 2 Mus, 1 Peromyscus, and 1 Sorex ornatus picked up traps.

March 19 Picked up rats in Tilden along trails only. no cats.

March 26 " " " " " along rest of trails.

Total for March 19 + 26 = 1 gt. saw no cats, but >25 grass mustard is beginning to bloom in pasture in Orinda. some fields have been blooming for a couple of weeks but others such as at Shades Hill Overpass not even started yet.

at 5 p.m. set lower 7 rows of the grid in Orinda pasture, = 84 Shermans. Lots of grass and mustard but only a few good holes.

March 27 Night clear, heavy dew. Only one mouse, a large ♂ meadowtrap with a tick attached to face and hair all gone near it. Closed traps 7 a.m. Picked up every other trap at 5 p.m. and set them at new alternate stations on upper rows of grid = 72 traps.

" "

March 28 at 7 a.m. traps held 4 meadowtrap, one of them repeat from yesterday. Left traps open during day. caught 1 mike and 1 shrew. moved traps to alternate sites = 72 traps.

March 29 At 7 a.m. traps held 2 mice. Picked up traps.
Summary: at this topping of the Orinda grid caught no Reithro, no mus, and 6 microtus. all of the mice were large ones, although one looked yearlish. 1 ♂ had large nipples, as did the other 2 ♀♀.

March 30 Driving past Tilden study area at 6 p.m. saw 1 cat ~~[illegible]~~ a grayish black striped one with white neck & shoulders.

April 4 About a dozen bats hunting over the Lake Anza playing field at dusk. Saw 1 cat here and one on the Inspiration Point - Orinda Road at 8 p.m.

April 11 Weather has been warm, sunny, no rain. Lots of oats headed out in Tilden. Picked up scats in Tilden in p.m. Covered all trails and paths and about half of the sequoias (none at any of these) = 1 pt of scats, almost all "fresh". Saw no cats. Heard 1 red-tail. Heard screech owl in Orinda, and see red-tails there frequently.

April 12 Set 75 Sherman traps at 4 p.m. in Orinda near the top of Knickerbocker Lane (Oak Springs district, near the previous Barbara Rd. traps line. no deer mustelid sign. Oats looking ripe; grasses drying up where soil is thin. Weather still hot + dry.

April 13 Night deer. Trap at 7:30 a.m. had 1 microtus, 4 Reithro, 1 mus, 1 peromyscus, and 1 Jerusalem cricket. Left traps set.

April 14 At 7:30 a.m. traps held 2 microtus, 1 Dermotrei, 4 Gerrhonotus, and 1 Jerusalem cricket.

1962

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april 23 at 4:30 p.m. put ~~2~~ Sherman in mustard - thistle - cowinn - grass at end of Barbara Rd. Saw only one good meadow hole - and a mike ran out of it. mustard in bloom.

april 24 Traps held 2 Pero maniculatus, 1 Perognathus, and 5 Reithro. This was the first Perognathus in several years; it was in dense mustard! Left traps out.

april 25 8 a.m. Traps held 2 Pero maniculatus (one of them a gray jun.), 1 meadow, 5 Reithro, 1 Perognathus (same place as yesterday), and 1 Leiopamus. Weather fine.

april 27 Family saw ~~Spilogale~~ on front lawn in Orinda at 6 p.m (broad daylight)

april 28 Spilogale evicted from basement at 7 a.m.

april 29 Spilogale killed by Barney (dog). Picked up cats in Tilden in a.m. no cats or hawks seen. Two horned owls at home, however, last night and tonight. also screech owls.

april 30 Trace of frost last night. Weather has been cool and sunny. Lots of mustard blooming. Parties with much mustard. Picked up cats in p.m. completing coverage of all trails on the 35-acre area. No cats seen. Total 1 1/4 qtrs

Set 76 Shermans at Trinity triangle. Two or three pieces with cuttings, no other mouse sign.

many ticks this spring. Sometimes find 2 dozen after setting traps; over 100 on the dog after a walk yesterday.

Pearson
1962

May 1 Traps at 6:30 a.m. held 7 *Microtus* and 3 *Reithro*.

May 2 Same traplines as yesterday, left set. at 9 a.m. held 2 *microtus*, 1 *Reithro*, and 4 *Zerbocotus*.

May 17 Collected first vegetation sample from Tilden grid. grasses just beginning to dry off; completely dry in a few places. Saw no cats.

May 18 Collected 2 more vegetation samples. no cats, no meadow mouse runs.

May 21 One more vegetation sample. no cats. While collecting the 4 samples so far, including digging the roots, I have seen only one small green caterpillar, one earwig, and 5 sow bugs.

May 21 Set 70 Shermans in Orinda, above the end of Barbara Rd, near the top of the big mud slide. many in this mustard in full bloom, 5 p.m.

May 22 Traps at 7:30 a.m. held 2 young *Reithro*. Spring continues to be sunny and cool.

May 23 Traps not checked yesterday afternoon. This morning held 2 Zerbocotus and 1 *Reithro*.

May 25 Collected last (5th) plant sample from Tilden grid. Saw 5 sow bugs and one fuzzy caterpillar while collecting it. no cats.

May 28 at 2 p.m. put 80 Shermans at end of Barbara Rd. lots of mustard still blooming. Saw no runways.

May 29 at 7:30 a.m. Traps held 3 *Pero mamculatus*, 1 *Pero true*, 3 *microtus* (in 3 consecutive traps in thick mustard and oats), and 3 *Reithro* (all young ones). Released Pero.

May 30 Ran traps 7:30 a.m. 1 Sorbonatus, 1 Keithro, 3 Pero maniculatus (2 of them gray jims.), and 1 Pero trowi. Released Peros.

~~June 1~~ at 7:30 P.m set 85 Shermans in field north of Pasture, Ornda. Rich cover of grass, mustard, and thistle coming. Lots of blooming mustard 6 feet tall. no runways

May 31 ~~June 1~~ at 7 a.m. traps held 4 microtus (all adult), 2 jim. Keithro, 2 Pero trowi (one of them gray jim.), 1 mus (adult), and 1 Sorex. Tagged the mice, mus, and Keithro. The cover is so good, especially in the tall dense mustard, that protection against hawks and owls must be complete, and against cats and such almost complete. Scared up a cat in tall grass. The 4 microtus were not in clear runways.

June 1 Picked up traps at 7 a.m.: 1 Pero trowi, 2 Sorex, 1 tagged Keithro, and 1 dead untagged microtus. Mustard covers a much greater area this year than last,

June 4 at 4 P.m set Cal 3 Calhoun line across from camp mineral Springs in Tilden (120 museum Specials with peanut butter). Saw only a couple of runways. no cats. mustard still blooming. Picked up about ½ pint of seeds. The lower and middle horizontal fire roads have been scraped already. Small handful of pellets (poison?) at base of each sequoia.

June 5 at 8 a.m lower line had 1 microtus and 1 Keithro; upper line held 2 Sorbonatus. Saw no cats.

June 6 Traps at 8 a.m. held 1 Keithro (lower line), nothing else. Saw no cats

1962

June 7 At 8 a.m. traps held 5 Microtus (1 on lower line, 4 on upper). Saw grey & white cat at Cooperstown Court.

June 10 Still lots of brush rabbits around, including young ones. No young quail yet. Mustard still blooming.

Set bottom 6 rows of Orinda grid at 8 p.m. (Equal Rows 6) 72 traps. A few collections of cuttings and one fairly good runway seen. One barred owl seen at edge of pasture, but he would have little hope of catching mice in the 4-5-6-foot high grass-thistle-mustard that covers most of the pasture.

June 11 At 7 a.m. traps held one young Reithro. Closed traps. moved traps to upper 6 lines of grid at 8 p.m. = 72 traps.

June 12 At 7 a.m. traps held 3 Microtus and 1 Reithro. all 3 Microtus were in adjacent traps along fence A1, B1, C1, all adult. Baited up alternate traps and left others set, hence A2, A4, A6, etc., B1, B3, B5 etc = 36 traps, which during the day caught 1 Microtus (a repeat 15 feet away). added alternate traps to rest of grid at 8 p.m. = 72 traps.

June 13 At 7 a.m. traps held 1 Jerusalem cricket. Feces like about 2 Reithro and 3 Microtus per one.

At 4:30 p.m. to Shannons at Charles Hill Rd, Orinda. No runways seen.

June 14 At 7 a.m. traps held 3 Reithro, 1 Mus, 1 Perkinsotus, and 1 Jerusalem cricket. Topped and rebaited one of the Reithro (obviously a jam).

June 15 At 8 a.m. some traps held 1 Reithro and 1 large King snake.

July 24 Baited up traps on Tilden study area, around sequoia trees and some of the lower traps. Saw no cats.

1962

aug 4 Horned owls seen & heard several times in recent weeks. Still lots of brush rabbits.

aug 21 Picnic at model airplane field in Tilden; saw 1 cat, black & white. a few rabbits around home.

aug 23. Picked up scats on all trails on the Tilden study area = 2 ½ quarts. 3 of them goopy-fresh. Saw 1 cat on the area, a smoky grey one.

Sept 5 Two horned owls hooting at Orinda past few evenings. Picked up 2 pellets under oak at bottom of pasture. Still a fair number of brush rabbits around. Pasture has patchy green grass stems (rye grass?) in some places, plus occasional green composites. Summer has been cool

Sept. 10 Jogged on a few Tilden trails and at about half the Sequoias and found only 2 scats. Saw no cats.

One more owl pellet at Orinda pasture

Sept. 26 Covered about half the trails in Tilden, area picking up scats. Saw 1 cat on area, a smoky gray one with inconspicuous brown stripes, probably same one as on aug. 23. None of the scats fresh (wet). Brief visits on Sept. 18 and 24 with Krebs, saw no cats, although about Sept. 18 saw one on Inspiration Point - Orinda road. It crouched and stared at me (parked) for about 5 minutes, then it bounded at high speed about 150 yards into chaparral.

Bob Stebbins found litter of young kittens in thick weeds east of Tilden golf course last year.

1962
Pearson

Sept 27 Covered rest of Tilden trails for scats. no cats. Total scats yesterday and today 1 3/3 qts.

Sept 29 First drizzle of season last night, wet the surface but no soaking. Termite out today.

Oct. 2 Light rain beginning about 4:30 p.m., only 1 hr.

Oct 6 ♂ Greyfox dead on road between Tunnel + Orinda. Skull smashed.

Oct 11-12-13. Rain Rain Rain. Washouts, mud slides flooding etc. about 16 inches in 3 days.

Oct 20. Stebbins found a fox carcass about 1/4 mile south of my area. Dead ± 1 month. He also saw a live cat, sooty grey with tan markings, about 1/2 mile south of my area.

Oct 21 at 4:30 pm set Calhoun 3 across from camp mineral springs; 120 museum specials with peanut butter + no good runways seen. no cats, but footprints of cat + coon and many fresh skunk diggings - picked up scats. Deer.

Oct 22 7:40 a.m. Calhoun lines held one big ♂ meadow (breeding) on lower line and 1 breeding ♂ Peromyscus maniculatus on upper line. Numerous spring-empty ('coon or skunk?), one with cricket leg. Saw no cats. Night clear, dew.

Oct. 23 7:40 a.m. foggy drizzly. One breeding ♂ meadow and one Peromyscus maniculatus (gray ♂ 6 pieces) on upper line. picked up scats. Saw one fresh quarter snake tail on trail, large covey of quail.

Oct. 24 night cloudy. Picked up calbourn traps at 7:40 a.m. Two microtus and 1 Pero mariettae in upper line. One of the mice a preg ♀, the Pero a breeding ♂.

Total calbourn catch for 3 days: 4 mice, 3 Pero mariettae.

Oct 28 Finished picking up stats on Tilden area. Total haul Oct. 21-28 was 2 qts. On Oct-28 saw cat, raccoon, and skunk tracks on muddy trails. Some of the coon tracks were well up the hillsides. Saw sparrowhawk on area, and a cat between Inspiration Point and Orinda.

Oct. 30 At 4 p.m. (sunny, warm) set 77 Sherman traps on Tilden Grid, Rows A, B, C, D, E, F, H and I nos. 10, 9, 8, 7, 6, 5, 4. A few good runways. The fire road (row G) was not scraped this year and is quite weedy, probably no longer a good barrier.

Saw 1 sparrowhawk, 1 large police dog, and 1 cat (pure white underparts, dark grayish back)

Oct. 31 Row traps at 7:45 a.m. Saw 1 sparrowhawk and 1 cat (dark smokey color, probably some tommy). Traps held 9 Reithrodontomys and 4 mice (and 1 cricket). Tagged and released all, left ~~5 mice~~ 2 of the mice traps closed. moved rows B and D to I and J. morning sunny and warm. note different cats yesterday and today.

At 4:30 p.m. traps held 1 large Peromyscus. moved every other trap on row F down to complete row J, closed 75 traps out. Sunny, warm-

1962

Nov. 1 Run trap at 7:30 a.m. Sunny + warm. Saw no ~~fox~~ cats, one sparrow or cowbird or something.
6 Reithrodontomys (2 recapt) and 3 mikro (1 recapt) and 1 Zonotrichia and 2 cowbirds. Both Reithrodontomys and mikros breeding, but no clearly juv mikros so far. Set every other trap = 50.

at 3:30 p.m. traps held 2 mikros, neither was a banded one. Saw no cats.

Nov. 2 Run traps at 7:30 a.m. no cats. Traps held 4 mikro (one tagged one) and 4 Reithro (all tagged ones) moved traps to alternate numbers. Did not run traps in afternoon, but saw cat between Inspiration Point and Orinda at 5:30 p.m.

Nov. 3 Run traps at 7:30 a.m. Thick fog. 4 mikro (2 tagged ones) and 6 Reithro (5 tagged ones). No cats (but foggy)

Nov. 8 Orange striped kitten on edge of area in Tilden, about half grown

Nov. 25 Picked up scats on about half the Tilden area. no cats seen, but about 2 fresh droppings.

Nov 26. Rain. First rain since the big storm in Oct.

Nov. 27 Sunny. Picked up scats on remaining half of area. Saw no ~~birds~~ cats, 1 red-tail. Total collection from Nov. 25 + 27 = 2 qts. many skunk? diggings, a few tracks of cat + raccoon. about 2 fresh droppings.

Nov. 28 At 4:30 p.m. set 72 Sherman on Orinda Trail, every station along rows G to L. Lots of runways.

Nov. 29 night clear, cold, heavy frost. at 7:30 a.m traps held 3 microtus, 16 Reithro, 4 mus, 2 Sorex. 2 of the mice, 3 of the mus, and both Sorex were dead. Tagged + released all and left traps set.

at 4:30-5:30 p.m traps held 4 mus, 4 Reithro 3 mice (one long-term recapt.) and (1 recapt.) (all recapt.) 1 Zerchonotus. also discovered 5 abandoned traps along row A containing 3 coffee and eartag #1615. moved all traps (72) to rows A - F.

Nov. 30 Horned owls hooting. at 7:30 a.m traps held 3 mice, 6 mus, 4 Reithro, +1 Sorex. 2 of the mus and the Sorex dead. night was hazy, no frost. sunny.

at 4:30 p.m. 3 mice and 4 mus. moved alternate traps back to rows G - L = 72 alternate traps.

Dec. 1 night scattered clouds, no frost. at 7:30 a.m. traps held 6 mice, 3 mus, 4 Reithros. left traps set. sunny.

at 4 P.M traps held 2 mice. saw 1 cat in field north of pasture. moved to alternate trap sites.

Dec. 2 at 7:30 a.m. (wet drizzle) traps held 6 mice, 9 Reithros, and 4 mus. Picked up traps.

Dec. 13 Leaf-fall seems to be late this year. The gum tree still has half its leaves, many of the almonds still have most of their leaves.

Dec. 29 Have had almost a week of heavy frosts, at 4 p.m yesterday put 40 Sherman in field north of pasture

1962

(Orinda). Some good runways. Sun tree still has lots of leaves. One lone mustard flowering in orchard. Numerous rabbits.

at 7 a.m. traps held 3 mice, 9 Peromyscus, 1 mus.

Dec 30 Picked up state in Tilden. no cats seen, one sparrow hawk.

Dec. 31 Picked up state in Tilden. no cats seen. Raccoon footprints, lots of skunk diggings. Total collection yesterday + today = 4 cats.

1963

Jan. 14 at 4:30 p.m. set 100 Silvercrane rolled oats at the grid in Tilden Park. Saw 1 blackish cat or ara and 1 red tail. Weather has been cold, no rain for long time.

Jan 15. night cold + clear. Traps at 7 a.m. held 26 Reithro and 5 mike (one of them dead). Only 2 of the Reithros were tagged ones. 3 of them appeared to be lactating ♀♀! Fairly many good runways. Saw 1 red-tail. Also 1 flock cot between Refrigeration Point + Cinch.

at 4 p.m. same traps held 3 Reithro and 18 mike. Note predominantly diurnal nature of mike during this cold spell. One mike dead. Picked up every other trip and closed alternate half. Saw 1 red tail and 1 sparrow hawk. There has been ice in gutters at Refrigeration Point (and Cinch) for a week, even in afternoon.

Jan. 16 Opened up traps at 5 p.m. cold. no cats

Jan. 17 night clear, cold. at 7:30 a.m. the 50 traps held 21 Reithro and 2 mike. Left traps set at same sites. at 4 p.m traps held 9 Reithro and 9 microtus. moved traps to alternate sites, no cats

Jan. 18 night cold, still frosty. Some fog. no cats. at 7:30 a.m traps held 13 Reithro and 4 mike.

Picked up traps at 4 p.m : 6 Reithros and 9 mike. Included one baby Reithros that was setting on top of a stump squeaking shrilly, (saved). about 3.2 grams?. Saw no cats but 1 sparrow hawk + 1 redtail. Seats picked up in past few days = 1½ qts.

1963
Pearson

Jan. 22 this morning was just moving in weeks above freezing
Jan 25 Still cold. Picked up scats on part of area.
Saw 1 black cat and 1 red-tail.
Set 88 traps (2 lemon, rebel oats) at Inspiration Point
below vinety Way at 4 p.m. numerous runways +
droppings. Saw Rattus or mus.
Jan. 26 Traps at 8:30 AM held: 2 Sorex, 2 Peromyscus maniculatus,
2 Mus, 10 Microtus, and 47 Rattus.

Jan. 27 at 5 p.m. set 10 Sherman aerial traps bottom of
Orinda pasture.
Jan. 28 Traps held 2 mus, 1 mole, and 4 Rattus. Gave
2 of the Rattus to Jerry Lewis, kept 1 mole and 2 mus.
Picked up scats on east of Tilden Grid. Total for
Jan 25 & 28 = 3 qts. Nocatee.
Newspaper says this is the worst winter
drought since 1877; 43 days so far.
Jan 29 Por rain.
Feb. 3 a large ♂ stuffed skunk dead along road just
south of my Tilden study area contained a couple
of spoonfuls of material in stomach, mostly
grubs, no hair.
George Hamilton poaching on the SW corner of my
area with unbaited snap traps Feb 1-3 removed
39 Microtus and 1 skrew. no Rattus!!
Feb. 15 Lots of rabbits at home in Orinda.
Feb. 18 Saw grey + white cat at 1/4 mile south of my Tilden
study area and a black one on Inspiration Point-Orinda road.

1963

Feb. 19 Tilden. at 4 p.m set calbourn lines ocean from mineral Spring (Col 3) : 120 Museum Speeds with peanut butter. at 5 p.m. set 98 Sherman on Tildens bird (omitted 2 in touchon). Lots of runways. Saw no cats, 1 Tarida.

Feb. 20 at 8 a.m. Lower calbourn had 6 Reithro + 2 mike. Upper Calbourn had 3 Reithro and 5 mike.

On the grid: 44 Reithro and 12 mike, 16 of the Reithros were tagged over plus one ear torn. 2 of the mikes were tagged over, including #690 from Kuhs area. Pay sunny, some breeze. at 3:30 p.m. Lower Calbourn had 0 and upper Calbourn 2 microtus

at 4:30 p.m. on the grid 19 mike, 5 Reithro, and 1 Sorbonotus. Saw 1 redtail and 4 cats on the area. 3 of them were dark ones, 1 yellow.

moved every other trap to next station, hence 2 traps at A2, 2 at A4 etc

Feb. 21 Grid at 8 a.m. had 39 Reithros, and 12 mike. 1 of the Reithros dead in trap. Saw 1 cat on area, a smoky one. It was hunting, saw pounce. Lower Calbourn had 5 Reithro and 4 mikes and 1 Taricha. Upper Calbourn had 6 Reithro and 2 mikes.

at 4 p.m. Grid had 23 mike and 6 Reithro and Calbourn Lines as follows: Lower = 1 mike; Upper had 6 mike.

Saw 1 garter snake on area and 1 dark cat. The cat pounced twice in about 5 minutes of watching. also 1 covey of quail on area (about 20 of them). moved grid traps to alternate site = a pair at every other stake.

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Pearson

Feb 22. Tilden. Ran ~~grid at~~ Calhoun at 6:30 a.m and grid at 7:30. Grid had 17 mice and 3 9 Rattus. Two of the mice dead in traps. Picked up traps.

Lower Calhoun had 3 mice and 8 Rattus; Upper Calhoun had 3 mice and 4 Rattus. See Feb-26 for summary.

at daybreak saw barred owl sail out of Eucalyptus grove in straight line and plunge into tall grass about 100 yards out in grass of my area. after about ½ minute it flew back to mixed Spring eucalyptus grove, carrying nothing. also 2 cats on area, one dark and one with considerable white on lower parts. +1 red tail

Feb-23 Orinda. Walked in hills around Sleepy Hollow pool and saw no runways. Lots of deer + cat tracks,

Feb-24 at home, see lots of rabbits but have seen no quail lately. Today a Siamese cat seen several times in pasture and a black + brown bobtail on Howard's hills. Lots of runways in pasture.

Feb-26 Picked up traps in Tilden in A.M. Raccoon and cat tracks in mud, saw 1 sparrow hawk, 1 ringneck snake, no cats. a few oats showing in stony soil on ridge top.

			mice	Rattus
Calhoun Summary	Feb. 20 AM	Lower	2	6
		Upper	5	3
	PM	Lower	0	0
		Upper	2	0
	Feb. 21 AM	Lower	4	5 + 1 Peromyscus
		Upper	2	6
	PM	Lower	1	0
		Upper	6	0
	Feb. 22 AM	Lower	3	8 + Peromyscus
		Upper	3	4
	Total		(28)	(32) + 2 Peromyscus

1963

Feb. 27 Finished picking up scats on Tilden area. Total for Feb 19-20, 25-27 = 3 qts. Saw no cats today.

March 4 Orinda Grid at 4:30 p.m., set every other station on grid (Sherman, noted cats). Lots of holes and runways. Still lots of dead 6'-8' mustard stalks standing, good cover. Half moon = 72 traps

March 5. Evening was clear, morning cloudy. Rain traps at 7:30 a.m. 11 microtus including 2 dead ones, 13 Reithro, and 8 mus. Left traps set, same stations.

at 4 p.m. ran trapline (Orinda Grid), moved traps to alternate stations, and on the lower rows set an extra trap at the new station (have 2 traps at each station on lower rows) = 119 traps. Traps held 25 microtus, 7 mus, and 2 Reithro.

March 6 Evening clear, morning cloudy. at 7:30 a.m. traps held 30 Microtus, 8 mus, 22 Reithro, 6 of the microtus were dead in traps. Left traps set.

Showers during day. at 3:30 p.m. traps held 37 microtus, 18 mus, 4 Reithro. 4 of the microtus dead in traps. moved traps to adjacent stations, have a pair at L1, L3, L5 etc, and singles on upper rows = 119 traps.

March 7 Evening cloudy, morning clear. Ran traps at 7:30 a.m. 46 microtus, 12 mus, 17 Reithro, and 1 Sorex. Picked up traps.

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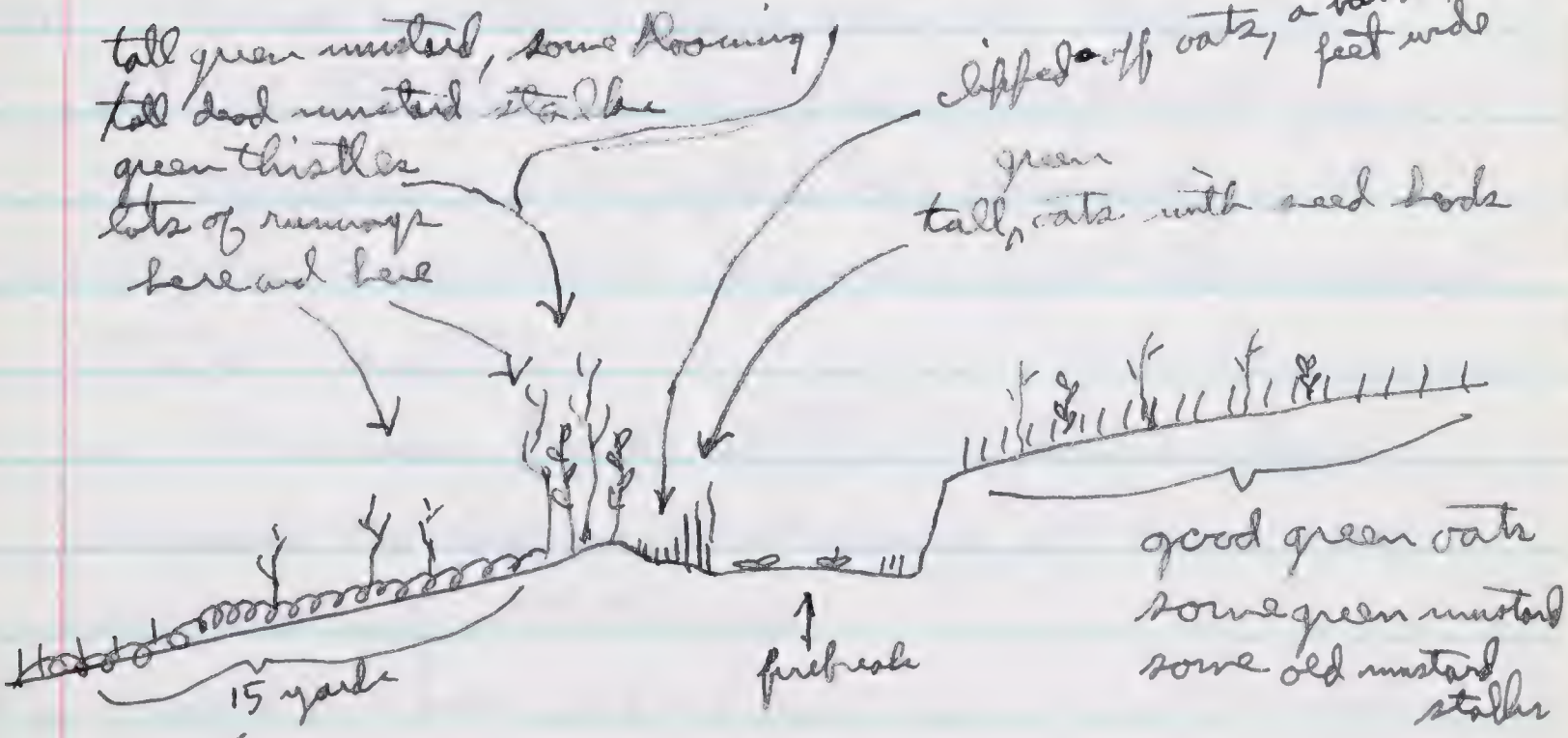
Pearson

March 11 Picked up scats on most of the center trails on the Tilden grid – not quite 1 pint. Saw no cats, but one dead stinky black + white one in the middle of one of the trails. Some mustard blooming but most of it not yet. a negro man and woman were cutting mustard greens along the firebreaks on the 35-acre area.

March 21 Picked up scats on Tilden area (Periphery of study area). Saw no cats, but one gopher snake, one red-tail, and one flock cat below county way. Found dead mole lying in middle of firebreak; no external damage but several subcutaneous hemorrhages – a multiple of 1 to 2


tall green mustard, some blooming
tall dead mustard stalks
green thistles
lots of runways here and here
clipped off oats, a band 1 to 2 feet wide
green tall oats with seed heads
15 yards
firebreak
good green oats
some green mustard
some old mustard stalks
dead grass
scattered dead mustard stalks
a few low mustard rosettes
lots of runways. Scarcely a green sprout for first 10 yards, then gradual increase of green grass

The rodents, in this section through a firebreak, are concentrated in the tall cover on the down-hill edge

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Pearson

of the firebreak. They have eaten almost every speck of green grass for 10 to 15 yards below the fire break and are working actively on the fringe of green oats on the firebreak itself. There is a very distinct barely grazed band or strip for the first 1 to 2 feet out from the tall cover. They eat the oats in preference to mustard & thistle. No visible damage on the slope above the firebreak.

March 25 Picked up more oats on Tilden area. Total for March 21 and 25 = 1½ qts. Saw 1 black cat on area. Many occasions in part 2 months ~~that~~ I failed to see any cats while stopped briefly on the road.

March 27 Looked over the trapping area at Charles Hill Rd and the Freeway (new product). Several foci of activity, but population obviously not high. Have seen a Siamese cat there several times recently.

Numerous brush rabbits at home. Saw 5 during one trip up the driveway, plus one more on other side of the house.

April 22 April has been cold and rain rain rain. Picked up oats on a little more than half of Tilden area, 1.3 qts. Saw no cats, although footprints. Saw one redtail. Lots of grass, oats in milky stage, very little mustard blooming now. Lots of rodent runways, cuttings, and droppings. Saw several mice. Lots of gopher diggings. Dead striped skunk on ~~Pinole~~ Hopkins. Found 4-5 birds road-killed along trails on area. Found: (back half of a juvenile

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Pearson

microtus; entire jaw. Reithro in hunched position (63-82); dead gopher, just head and rest of skin, with intestines lying nearby; 1 dead adult microtus, very stinky.

I don't think I was missing many mole as a result of rains because almost all the ones I found were perfectly clear, not intergrading into mud.

at home in Orinda: still lots of brush rabbits, hard horned + screech owls, no mustard blooming yet in pasture.

April 25 Finished picking up scats in Tilden; 0.7 gtr. Saw 1 dark cat, which rolled in a gravelly place in trail. Looked like dusting but no dust, in fact light rain only a few minutes before. The cat then walked about 10 yds along the trail and defecated on a low mat of clover in the middle of the trail. Saw one redtail and 1 large sparrowhawk. Also I found 1 dead stinky adult microtus in middle of trail with ear tag #666, about 100 yds from edge of Kreha area. Also another adult ♀ microtus looking intact but with obvious contusions when skinned.

Walked yesterday in Orinda Pasture. Many runways, cuttings, + droppings. In some places almost no green grass, just thistle plants and last year's dry grass.

April 29. Anita saw a vulture feeding in field north of pasture (Orinda). It was eating a large cat and some small, furred critters. Snowing for 3 days now.

1963

Krebs trapping on his Tilden area left to mine sage on
april 3: "230 mic caught on control 1 acre ± this week. Est. 3/4
of population caught ∴ 250/acre ± 50" [need live traps + tag-release]

april 30 set 48 Sherman below Minty Way at 6 p.m. Sole of runways.

may 1 night clear. at 7 a.m. traps held 14 microtus,
15 Reithro, 6 mus.

may 3 Krebs reports: "~ 240 ind. microtus on Tilden
Control 1+ acre this week, est 2/3-3/4 caught.

may 6 analysis of scats picked up along fire road below
Minty Way (closest to Inspiration Point) showed 21/17 mice,
3 Reithro, 1 Rabbit, no toyo.

Looked for scats along fire road up Big Springs
Canyon in Tilden to crest, then back along another
fire road about 200 yds N of the stream bottom & Hoffer
at several places where grass etc were lush and
saw only a few runways. No places where the
habitat was being abused by microtus, nothing like
the concentration on my area and on Krebs' area. Only
a few scats also, none fresh.

at 4 p.m. set Tilden Grid, every site = (-2) 100 traps.
Saw 1 redtail and 0 cats. Weather warm & muggy. 3 men
on lower half of 35 acres surveying for golf course!!

may 7 Light rain. Ran traps at 7 a.m. no cats. 37 Mike, 8 Reithro,
and 1 big Sorhoestes. Left traps set at some places.

at 4 p.m. traps held 39 mice. Doubled up on traps
(2 at every other station: A 2, A 4, etc), still 98 trapped no cats.

1963

Krebs trapping on his Tilden area left to mine says on April 3: "230 mice caught on control 1 acre ± this week. Est. 3/4 of population caught ∴ 250/acre ± 50" [need live traps + tag-release]

April 30 Set 48 Sherman below Wenty Way at 6 p.m. Sohr of runways.

May 1 Night clear. At 7 a.m. traps held 14 Microtus, 15 Reithro, 6 Mus.

May 3 Krebs reports: "~ 240 ind. Microtus on Tilden Control 1 + acre this week, est 2/3 - 3/4 caught.

May 6 Analysis of scats picked up along fire road below Wenty Way (closest to Inspiration Point) showed ~~21/17~~ Mike, 3 Reithro, 1 Rabbit, no Toxo.

Looked for scats along fire road ~~from~~ up Big Springs Canyon in Tilden to crest, then back along another fire road about 200 yds N of the stream bottom & stopped at several places where grass etc were lush and saw only a few runways. No places where the habitat was being abused by Microtus, nothing like the concentration on my area and on Krebs' area. Only a few scats also, none fresh.

At 4 p.m. set Tilden Grid, every site = (-2) 100 traps. Saw 1 redtail and 0 cats. Weather warm & muggy. 3 men on lower half of 35 acres surveying for golf course!!

May 7 Light rain. Ran traps at 7 a.m. no cats. 37 Mike, 8 Reithro, and 1 big Sorbonetus. Left traps set at same places.

At 4 p.m. traps held 39 Mike. Doubled up on traps (2 at every other station: A 2, A 4, etc), still 98 traps/ no cats.

Weather overcast. No scats on brief tour.

May 8 Partly clear at 11 p.m. but cloudy in AM and began raining while I was running traps at 8 AM. Traps held 37 mice and 6 Reithros. Saw no cats. Closed traps.

at 4 p.m. moved traps to alternate sites. no cats.

Drizzle.

May 9 Cloudy at 8 p.m. but clear later. Full moon. Ran traps at 8 a.m. 51 mice, 8 Reithros. no cats. Picked up traps

Scats from Big Spring Canyon on May 5 had 23 mice, 2 Reithro, 2 gopher, no ear tags.

May 11 Picked up scats on a few of the trails in Tilden, but found only a few. Saw 1 dark cat. Many gopher diggings along trails. Found one dead young ♀ gopher with head in open burrow; no obvious lacerations when skinned.

May 12 Put up a 30 x 30" exclosure (½" hardware cloth) in Orinda pasture at a flock with fair oats + grass stand a few yards from the edge of an abused area where the grasses are almost gone. to be known as exclosure #1. Took photos of it and of site for exclosure #2.

May 13 about 20 live traps in stable and pigeon coops caught 4 Mus and 10 Peromyscus Mice

May 16 Picked up scats on most of the big trails on Tilden area; only a few. Saw no cats. Many fresh gopher diggings and some moles. Surveyors working on area. Warm + sunny.

May 22 Picked up scats in Tilden. Saw no cats, but 3 large live Sciurotus and 1 dead one on top of a boulder.

1 Peeping Tom. Mustard flowering.

may 23 Picked up more mats in Tilden. Saw one gray and black striped cat between Inspiration Point and Orinda, and two cats on the study area: one dark and one pale yellow.

may 27 Put 44 Shermans at Charles Hill Rd and Freeway, Orinda. Lots of runways. Mustard blooming now in Orinda + Tilden.

may 28 Overcast. Traps held 13 Mike, 8 Reithro, and 1 Mus.

may 29 Put 42 traps (Shermans) on knoll in Freeway at Orinda Crossroads [called Orinda Island]. This is about 3 acres of grass + weeds, 3 high-tension towers, and some periwinkle on one edge. Oats, rye grass, mustard, thistle, fox-tails, a few Bromus bushes, numerous grass cuttings, a few mouse droppings, but no good clear runways. The vegetation very thick and obviously way ahead of the mice. Saw 1 Scelophorus; squashed on the road nearly a dead mole and a big dead Serpentine.

may 30 Traps held 10 Mike, 2 Reithro, and 4 Mus. Tagged and released all except 1 marked Mike (# 1135 - 1145)

June 3 at 4 pm put 72 Shermans alternate sites on Orinda Grid. Lots of runways, white wine, droppings etc. Sunny.

The pasture vegetation is very poor. Large expanses of thistle with very little grass, and large expanses of Common. The grassiest places are on the top of the knoll where the soil is shallow and sandy. During the past 5 or more years there has been a steady plant succession from grass to mustard to Common.

The upper left corner is now tall Convim; the center left, which was grass two years ago and mustard last year is now pure thistle. Only the lower part (and the knoll) are now pure grass.

In the saddle beyond Sleepy Hollow where there has been a nice effouve of mustard in recent years, there is now a large patch of mustard in bloom, but the center is all Convim in bloom.

June 4 Ran traps at 7 a.m. Sunny. 45 microtus, 5 mus, and 0 Reithrod. 9 of the mice were dead, almost all of these from the bottom 3 rows. The fewest mice were taken on the knoll where the grass, although short, is dense and has lots of seeds. Lots of mice in the pure thistle and pure Convim. In the pure thistle is last year's grass and mustard stems.

Closed traps at 7 a.m., opened at 7:30 p.m.

June 5 Ran traps at 7 a.m. Sunny. 38 microtus, 2 Reithrod, 3 mus, and 1 Sorex. Closed traps at 7 a.m., opened at 8 p.m.

Full moon.

June 6 Sunny. Ran traps at 7 a.m. 46 microtus, 3 Reithro, and 2 mus. Picked up traps.

June 7 Picked up rats on main trails in Tilden, all of left lower left. Found 1 20-gram dead of microtus, damaged. Saw 2 Sorbonotus, 1 golden mole, 1 redtail, 0 cats.

June 8. Kodachrome of Orinda area.

June 9. at 8 p.m. set Calhoun 3 in Tilden and first 6 rows of Tilden grid (60 stations). Much of the area in the east

per week has become dominated by tall weeds (mostly flowering mustard and flowering Canina). The loss of grassland to Canina is especially impressive. Had trouble locating stakes in the Canina at first, have didn't get all traps set. Cold windy foggy.

June 10 Ran traps at 7:30 a.m. Calm, sunny. On the grid 26 Mike and 7 Rattus. Closed these traps but set every station in rows H, I, J, K. Calhoun Lower had 12 mice and 1 Rattus; Upper Calhoun line had 14 Mice and 1 Rattus.

at 4 p.m. Calhoun Liver held only 2 mice (both lower line). The 40 Hermans on grid held 10 mice and 1 Zerbaratus. Saw 1 garter snake and 1 large gopher snake, 0 cats. Shower at 6 p.m. [all traps in pairs at alternate stakes on grid = 100 traps]

June 11 ~~Shower~~ Tilden overcast, grass wet. ~~Lower Calhoun~~ Grid at 7:30 a.m had 51 mice, 8 Rattus, 1 Sorex, 1 Peromyscus, 1 Zerbaratus. Lower Calhoun had 8 mice and 1 Rattus; Upper Calhoun 10 mice and 1 Scalops. Found 1 dead meadow gopher in trail. 0 cats but 1 fresh droppings since yesterday. Closed grid traps.

at 8 p.m. moved grid traps to alternate stakes (100 traps in pairs) and ran upper Calhoun line (=6 minutes, nothing else). Saw 0 cats.

June 12 Picked up grid traps at 8 a.m; slightly foggy, then sunny. 54 mice, 8 Rattus, 1 Pero mavie. Saw no cats. Also picked up Calhoun: Lower line 4 mice, 2 Rattus, upper line 13 mice, 1 Rattus.

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Summary of Calbam Line:

	Microtus	Rattus	Otter
June 10 AM	26	2	0
" PM	2	0	0
June 11 AM	18	1	1 Sceloporus
PM	6	[illegible]	0
June 12 AM	17	3	0
	69	6	1

June 25 Picked up scats along main trails in Tilden. Ocats, but much weedy cover. Found 1 dead mike, lacerations under skin. no bulldozing yet.

June 26 Picked up more scats; lots around sequoia trees. Grass around lower Sequoias has been mowed. Ocats.

July 7 Watched Microtus from tower in Orinda Pasture in evening. Lots of activity about 8 p.m. when wind died down. Sometimes 3 or 4 in view at SAME time, frequently within 2 feet of each other, but no fights; heard no squeaking, never no fights. Mostly they just rose over and through the vegetation, a few nibbled at greens (thistle), a couple climbed briefly a few inches into thistle. In many places the ground is drifted with stems? Canada thistle seeds and the Microtus plow through them like snow plows. Makes them more visible. Considerable mustard still in bloom.

July 8 More normal watching at 8 a.m., much activity. Picked up scats in Tilden at 3-5 p.m on main trails. no bulldozing yet, Mustard still blooming, common greenish-yellow, dirtiest blooming on firebreaks. Saw 3 snake skins, 1 dead skunk (Mephitis), large covey of new quail. No cats.

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July 16 Picked up scats on major trails in Tilden. no bulldozing yet. Lots of daisies blooming in trails, very little mustard still blooming, comin still greenish (and yellow). Saw no cats, 1 pr quail with young.

July 17 Watched from tower in pasture at 8 P.m. Some mustard still blooming, canada thistle almost dry, big thistle still green, as well as bristly ox tongue. Evening was cool and breezy; saw only 1 meadow briefly, but saw at least two Mus several times. On one occasion there was a vigorous chase between two mus for about 15 feet. another? mus covered several yards by moving along fallen weeds 6" or more above ground.

During several observing periods lately, I have frequently seen 2 or more Meadow within a foot or two of each other, but only one actual contact (face grooming). no dozing, and no squeaks, hence no "fights". They are stripping the basal leaves of the big thistle; a browse line about 1 foot up one of the thistles. One mouse climbs up onto a truncated thistle stalk about 8 inches high and nibbles at the moist top. I can find no trace of the top of this plant, so presumably all eaten.

July 18 Watched mice 7:45 to 8:45 p.m. (DST) in pasture, no wind, lots of mice, sometimes 5 in view at one time. On one occasion a mouse was eating a thistle head on the ground, a half-grown mouse came up beside it in contact (no reaction), and a third mouse was up in the thistle plant above them, a half-grown one later did considerable grooming around the base of the big thistle from which they have been stripping

leaves — like killing the goose. Browse line on this plant has been going up about an inch per day and is now more than 1 foot high →
Was surprised to see Mus several times up in a big thistle cutting green leaves. Also saw a mike gnawing the "trunk" of a flowering mustard plant. Saw one brief Microtus chase, silent. The Mus move more rapidly, more steadily, more "purposively" than the mice. Most activity is about 8:15, which is after sunset but before bat-flying time.

Krebs reports on his census of his Tilden control area: "Last week caught 315 Microtus on the 1± acre, up considerably from 2 wks. before. est 450/acre ± 10%? Breeding now 90% stopped on control" "i.e. more mice than ever before!"

July 22 Watched mice in pasture with Bill Hamilton at 8 p.m. He saw a mike chase off a Mus (possibly Rattus, but almost surely Mus).

July 23 Picked up seats in Tilden. No cats seen. no bulldozing yet. Heard loud, insistent squeaking near a log and saw a large garter snake carrying off a 10-gram, squeaking Microtus.

July 25 Picked up seats in Tilden. Saw crew of 4 men, 1 garter snake, occasional Buteo sp., no cats.

Aug. 5 Watched mice from tower in Pasture at 8 p.m. Still lots of mike and a few Mus seen. Big thistles all dry (or stripped) now. Mice are barking busily at tongue. Heard no fighting. Two young bobcats squealing and

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scrapings, plus an adult.

aug. 9 Picked up scats on main trails in Tilden: 5 gts, about half of them in a half dozen piles at the north end of the area, a place that has been productive on earlier visits this year. Saw several mice and 2 ground squirrels, two racers, no cats. Common being grazed around base. No hawks.

aug. 11 Picked up scats + pellets in Orinda Pasture. Haven't seen any cats there for months. Watching from tower reveals lots of mice and a few mice in evening and morning, not in middle of day. Saw 3 20-gram young feeding on one green thistle plant at same time, plus a fourth only a foot or so away. Still no fighting (except once at the rolled oats in an exercise wheel when one mouse chased another away accompanied by squeakings). At least 2 mice tried to get at the oatmeal by squeezing under the wheel instead of merely stepping into it.

aug. 19 at 5 p.m. set Tilden grid, every stake = 100 traps. Hot. Lots of runways and white-mark + droppings. Saw 3 mice or rabbits while setting out 2 mice. Common still a little green, a few thistles still green, but mostly dry. Saw 1 Cooper hawk on Inspiration Point - Orinda Rd and two red-tails over Tilden area, no cats. Picked up scats along upper Colborn line (almost none) and on grid.

aug 20 Ran traps at 8 a.m. Sunny, no dew. 62 mice, 15 rabbits, and 1 mus. = 78 mice! IDIT. Closed traps. Saw no cats. mice seemed in good condition, no scars, docile when handled.

Opened traps at 5 p.m., 1 pair at alternate stations = 100 traps

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saw Sorex and sharp-shin? hawk. Sunny. No catch.

aug. 21 Ran traps at 7:30 a.m. Sunny. Saw 2 sparrow hawks and 1 red-tail, no catch. Traps held 76 microtus, 6 Reithro, and 1 Zealopsus = Σ 85.

From the large number of recaptures of June and earlier microtus, it is clear that survival has been ~~[illegible]~~ good, almost no tags in droppings. Furthermore, from the huge catch and the very few recaptures of yesterday's tagged mice, the population must be enormous. No young, no lactating ♀♀, no open vaginae.

Picked up scats in P.M. Found one very dead microtus on trail. Saw 1 black cat. Moved traps at 5 p.m. to alternate sites, 1/2 mi. at each = 100 traps. Sunny.

aug 22 Ran traps at 8 a.m., overcast. 77 microtus, 11 Reithro, and 1 mus = Σ 89 mice. Finished picking up scats. Found 1 dead mike, 1 dead Reithro, and the incisors and front of skull of a recently-eaten gopher. Saw 1 dark cat. Krebs is trying to catch raccoons on his area. Many chuckers of grain this year on the Tilden area and everywhere in Oriole

Many of the microtus are huge and few of them are under 30 gms. Average wt. probably 40-45 g.

aug. 27-28 To Brooks Island overnight with Carol. Set 66 museum Specials and 60 Longworth live traps at 6 p.m. night mostly clear, high fog until 9 a.m. Caught 33 microtus in museum Specials and 32 in live traps. Saw numerous rats, even upon ridge, and 1 garter snake.

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Sept. 4 Picked up scats in Tilden at 10 a.m. Low fog. Found ½ microtus runway on trail, saw no cats. Saw about 4 microtus.

Watched mice from tower in Orinda pasture at 7:15 p.m. Cloudy but calm. Saw numerous microtus, no fights or squeaking. Have seen no mus here for several weeks. Horned owls always there evenings. Tonight, even at late dusk, two red-tails circling high and screaming and diving at each other.

Sept. 9 Picked up scats in Tilden. Saw several microtus, many lizards (Scalops) both large and tiny, two ~~of~~ red-tails one of which caught a mouse and ate it while I watched, one sparrow hawk, one large gopher snake, large covey of quail, and two cats on my area (one white, grey and tan, other grey striped). Also smelled skunk. May have failed to mention squashed striped skunk on road along north edge of my area about 3 weeks ago. Covered about half of trail on this collection.

Sept 12 About ½ inch rain.

Sept 19 Picked up scats in Tilden at 4 p.m.. Saw lots of mice and small lizards, 2 red-tails 1 wood mice. no cats. Many of the mice were near tar weed and may be eating the seeds, which are now ripe. The mice looked small-ish. No new green vegetation, but around the sequoias where the grass was mowed last spring, there is now quite a bit of mustard blooming. Like second cut alfalfa?

Watched from Orinda tower at 7:15 P.M. Saw only

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one mouse, a mike, and have seen very few on other visits to the tower in the past 3 weeks. Hear barred owls nightly.

Sept 23 Picked up seats in Tilden; collection includes 2 predicted/lost roster. No cats. Sparrow Hawks. Set 48 thermos at Inspiration Point at 4 p.m.

Sept 24 Traps held 13 warblers and 12 Towhees. No males or females breeding. Av weight of warblers 9 grams.

Sept 28 at 5:30 p.m. saw cat among Legions on Tilden area; Black with dark brown splotches, watched 5–10 minutes. Saw 1 mouse, he caught 1 mouse.

Sept 29 Took bodychromes of Tilden area. Picked up a few seats. Saw no cats.

Oct. 7 Picked up seats at 3:30 p.m. in Tildens. Saw a few mice, plus 3 redtails, 1 sparrow hawk, big covey quail, 1 or 2 cats, 1 dead mike under sequoia tree, 1 dead towhee, 1 dead shrew. There is a white powder around the base of most of the sequoia trees. Several of the upper sequoials are being girdled and trimmed by mice. Mr Knights was puttering around the trees when I left at 5, possibly distributing poison.

Set 100 sherman, every station on grid. Found only two seats on grid. Sunny, warm.

Oct. 8 Ran traps at 7:30 a.m., cloudy but warm. 45 warblers and 22 towhees. Left rows A and B open but closed others. Some traps with live towhee or mike morning with tiny ants; maybe looking for sugar in urine? Picked up more seats. Saw 2 sparrow hawks, no cats. Found 9 dead mike

on the trails, some of them summies, some torn in half, some entire. Not near the sequoias.

Each sequoia now has a thin sprinkling of rolled oats near the base, about a teaspoon, spread out, near each. In the gutter where Mr. Knight's car was parked was a gummed label from a container of grain poisoned with zinc phosphide, prepared by Contra Costa & Dept. of Agric.

The 20 traps in rows A and B held 4 <u>miscellaneous</u>. moved alternate traps to next station so that now there are 100 traps in pairs at alternate stations.

Mr. Knight was poisoning again at 5 p.m. Chatted for about 10 minutes. He went ~~with~~ from tree to tree carrying a no. 2½ can of grain, tossing a pinch here and a pinch there, not just at trees but various places between them. Found 1 dead spotted towhee, no dead mice. Saw no cats.

Oct. 9 Sprinkled overnight, but warm. Ran traps at 7:30 a.m. 52 <u>Microtus</u>, 14 <u>Reithrodontomys</u>, and 1 <u>Peromyscus maniculatus</u>, Saw 1 long & garter snake, no cats. Saw 1 dead <u>mouse</u> near sequoias, probably a poisoned one. Traps closed.

at 4:30 p.m. moved pairs of traps to alternate sites. 100 Saw sparrow hawk and redtail, no cats. Clear

Oct 10 Clear. Picked up traps at 7:30 a.m., 49 <u>Microtus</u>, <u>21 Reithrodontomys</u>, 1 <u>Peromyscus maniculatus</u>, 1 <u>Scorpion</u>, 1 <u>Jerusalem cricket</u>, 1 <u>Mus</u>, 3 of the mice and the Scorp dead or dying. Saw 1

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redtail, no cats. No dead mice near Sequoias.

Oct. 11 Rain much of last night, probably enough to sprout vegetation. Looked around Sequoias again but still no dead mice.

Oct. 15 more rain.

Oct. 16 Lots of grass sprouting in Orinda.

Oct 23 Picked up scats in Tilden. Lots of grass sprouting and scats. Found one dead mice on trail (fur around head wet). Saw no cats, no live mice, numerous lizards.

Oct. 25 Picked up scats in Tilden. Saw 1 tabby cat, several new mole runs. no live mice.

Oct. 27 Picked up scats. no cats seen

Oct 31 First frost

nov. 11 Picked up scats; no good concentrations. Saw 1 redtail, 1 sparrow hawk, no cats.

nov. 25 Picked up scats. Saw 1 skunk, 1 black cat on ninety slope, several mole runways.

nov. 26 Picked up scats. Saw 1 sparrow hawk, no cats.

nov. 27 Looked for scats briefly, no cats.
Kreber reports for his control area "about 150/acre novem. 16
going down rapidly. no growth, no breeding yet." dated nov. 16

nov. 29 Set 72 stations in Orinda pasture, every other station on grid (= 10 yds apart) at 4 p.m. Much of the green vegetation is again weeds (cocklebur, mustard, thistle). In some of the weedy places there are numerous square feet with no new vegetation coming up, and lots of areas with no grass. Of the two mouse enclosures, the upper one (in weedy habitat) has weeds coming up about as

in the surrounding area, but also scattered grass (oats?) which is absent from the surrounding area. The lower exclosure in a grassy area seems similar to surroundings.

Few good runways but quite a few active-looking holes, especially up on top of the knoll where it is grassy and where ~~rats~~ mice are ordinarily scarcest (shallow soil).

Nov. 30 Full moon. Morning foggy. Ran traps at 8 a.m. 2 shrews, 2 *Microtus*, and 6 *Reithrodontomys*, no signs of breeding, all adults, none of them tagged ones.

Judging by sign there are more *Microtus* present than this. Dogs found lots of places to dig, and they caught one mike while I was running my traps.

A brush rabbit at home was sitting amidst lush new grass eating leaves that have fallen from a flowering peach tree, some of the leaves yellow.

Dec. 2 Set Calhoun Lines in Tilden (Col. 3) = 120 museum specials baited with peanut butter, at 4 p.m. Saw only about 2 fairly fresh runways. One red-tail. One bobcat near the botanical garden. Sunny, but a bitter cold wind was blowing fog in from inland.

Dec. 3 Ran traps at 8 a.m., cold, light fog. In lower Calhoun 1 *Reithro*; Upper Calhoun 1 *Reithro*, 1 *mike*, 3 *Peromyscus maniculatus*, and 1 ~~[redacted]~~ golden crown. Saw Cooper Hawk and *jackrabbit* on the area, plus a jack rabbit dead on Dam Road.

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at 4:30 p.m. nothing in the traps. no cats

Dec 4 cold, foggy. at 8 a.m. traps held (Lower Calhoun) 1 mike, 1 Rattus; Upper Calhoun 3 Peromyscus, 1 Rattus.

a black cat squashed on road about 100 yds from wheel some time one yesterday.

Did not run traps in p.m.

Dec. 5 Ran traps at 8 a.m. Cold + foggy. Lower line held 2 mice; Upper line held 1 Rattus and 1 Sorex.

Total for 3 days of Calhoun: 4 microtus, 5 Rattus, 6 Peromyscus maniculatus, 1 Sorex, 1 golden crown x

Dec. 16 Set 100 Sherman on Tilden Grid at 4:30 p.m., cold and clear. Very few holes or runways. no cats seen.

Dec. 17 Ran traps at 7:30 a.m. Cold, windy clear, although tule fog in lowlands. Frost on Orinda side of Inspiration Point but not on Tilden side. no cats, but cat and dog footprints and some fresh carnivore droppings. Traps held 1 dead Sorex ornatus, plus 6 microtus and 9 Rattus. Some of the mice with open vagina

Dec. 18 1 m.p.m. (4:30, clear, cool) one song sparrow. Saw no cats. Traps in same places but left the 17 that held mice this a.m. closed.

Dec. 18 Ran traps at a.m. Tule fog in valleys, my area just on upper edge of it. For about 50 yds at Inspiration Point the trees were heavily coated with frost (frozen fog), but none on Orinda side (too foggy) or on Tilden side. Traps held 1 live Sorex ornatus, 4 Microtus, 10 Rattus. Saw no cats.

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nothing in traps in a.m. Left one song sparrow, no cats. Set all 100 traps.

Dec. 19 Ran traps at 8 a.m., cold and raining. 1 Dusky ornatus, 8 microtus, and 13 Reithrodontomys. no cats seen. Picked up traps

Dec 23 Grey + white cat on Tilden area. Picked up scats

Dec. 26 Picked up scats. 1 cat, mostly black with specks of brown.

Jan. 8 Picked up scats on Tilden area. No catipeen, only about 1 qt. of scats, some of them not furry.

Jan. 26 Some mustard blooming on certain natural slopes such as NE of Chart Hill Rd. overpass.

Picked up scats in Tilden. In spite of much rain in part couple of weeks they seemed easily visible and not varying on disintegration, no cats, one rat tail.

Feb. 8 Lots of mustard blooming in Orinda pastures. many brush rabbits around home. a microtus seen climbing up into climbing-fig vine on brick wall and carrying off its green leaves - in spite of lots of green grass.

Feb. 9 Picked up scats in Tilden. no mustard blooming yet. Saw 1 cat (grey striped) and 1 sparrow hawk. about 3 fresh gopher sets of digging along trails.

Feb. 10 Picked up scats on rest of trails. no cats, 1 rat tail, 2 sets of gopher diggings plus 1 mole at same place near parking area. Found 1 dead shrew under Sequoia. no external marks, but neck bloody when skinned.

Saw cat on my trapping island at Orinda X - roads.

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Feb. 16 Examined lower ½-inch wire exclosure in Orinda pasture. Lots of oats, geranium, 1 Rumex, no mustard, surrounding is oats + geranium and a little mustard. not much different.

Upper exclosure contained about equal number of mustard, common, and oats; a few geraniums. Outside is mustard and common but no oats or grasses. The survival of oats inside the exclosure is completely convincing.

Feb. 17 as many as 6 brush rabbits seen sometimes while driving down our driveway. 2 meadow mice on lawn frequently, usually when crown sparrows are grazing also. They frequently come within 1 foot of each other, but pay no attention.

Twice I have seen a pale cat on the Orinda X-roads island. Anita saw a dark black & brown cat on Krebs area yesterday.

Feb. 18 at 4 p.m. (sunny) set Calhoun Col 3, 120 numbers specials with peanut butter. Only 1 or 2 runways seen, no cuttings or droppings. One sparrow hawk, no cats.

1 I inspected the "firebreak transect" described march 21, 1963. This year, downhill from the firebreak where nothing grew last spring, there are lots of oats, mustard and common.

Feb. 19 right clear, some wind, no dew. Traps held 1 jerusalem cricket, 0 mice.

at 3:30 p.m., sunny + warm, traps held 0.
Saw 1 dark cat just south of my area, plus 1 Kestrel.
and 3 deer on my area and heard horned owls.

Drove past the area at 10:30 pm and by flashlight saw 1 cat in middle of my area and 6 deer (4 and 2).
at 1:30 a.m. by flashlight from road 2 cats on my area and 4 deer.

Feb. 20 at 7:30 a.m (clear, warm wind still blowing, no dew) traps held 1 Microtus in lower line, nothing else. no cats. Didn't run traps in p.m.

Krebs says the first young Microtus and the first lactating female have now appeared in his traps; he is quite sure no reproduction until now.

Feb. 21 Weather clear. at 8 a.m. traps held 1 Sorex.
Saw no cats,

Summary of 3 nights of Calhoun lines = 1 cricket, 1 Microtus, and 1 Sorex.

Feb. 24 at 4 pm (~~sleeted~~ cold, overcast, windy) set 100 Shermans on Tilden grid. a couple of promising holes, but no droppings, cuttings, or runways. no cats.

Feb. 25 at 7:30 a.m traps held 1 lact. Microtus ad., 2 ♂ Peromyscus, and 2 Sorex (dead). Left all traps set except these. Clear, frost on trapping area.

at 4:30 p.m (sunny) checked traps = 3 Microtus, 1 Peromyscus, 1 Sorex (dead). Saw no cats or hawks. Left all traps set except those that contained mice.

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Feb. 26 Ran traps 7:30 a.m. — sunny, no past or area but some in Orinda. moon almost full. caught 0 *microtus*, 3 *Reithros*, 2 *Sorex* (dead). Left traps set except those that held mice. Saw no cats.

Ran traps again at 4 p.m.: 1 *Reithro* and 4 *Sorex* (all dead). Set all traps. Saw sparrow hawk chasing redtail.

Feb. 27 Ran traps 8:30 a.m.: 5 *Microtus* (2 of them dead), 3 *Reithros*, and 2 shrews (1 dead). (all shrews have been *S. ornatus*). Picked up traps. Sunny. no cats. Saw sparrow hawk on phone wire on Grizzly Peak holding dead mouse.

march 2 Dead grey fox between Orinda and tunnel. Cat seen again on Orinda X-roads island.

march 7 Photo of mustard in Orinda. Seats in Tilden. no cats

march 15 Grey tabby seen on Tilden area while driving past.

march 25 Collected seats in Tilden in AM and PM. Redtail being chased by sparrow hawk both times. Bobby-marked white-brown-black cat near rock outcrop both times. also all-black cat at Inspiration Point. saw 1 large Scalpoms, 3 mole runways. about march 10 counted 11 fresh gopher sets along the seat trails. The spotted cat made 1 pounce while being watched. Lots of fresh rabbits at home.

april 6-7-8. Picked up seats in Tilden — not many. Saw redtail, sparrow hawk, numerous gopher diggings, one puddle of bird feathers. Lots of mustard blooming south of my area. Heavy frost april 5, light frost april 6 (in Orinda).

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april 6 a graduate student named Francis studying quail in a 100' × 100' enclosure in the Behavior Station says he has recently trapped "at least a hundred" <u>raccoons</u> in his enclosure. Zoo 113 class reports almost none in Strawberry Canyon. Francis gives the quail some feed, but says they live mostly on vegetation at this time of year

april 10 Talked with various people in Tilden Park about carnivores:

(1) 2 gardners in Botanical garden, one of them a former Fish + Game employee. They say Park has been controlling cats and killed at least 17 near the nature area not long ago. They like them in the garden to keep gophers down. They have seen no coyotes or wildcats

(2) A Ranger at Brazilian Room. He came on the job in 1961 and says there was no cat control that year but that there has been recently. Sees no coyotes or bobcats.

(3) Mr Parker, ranger naturalist at the Nature Area. Says he has been here 15 years and that only this winter have they controlled cats. Claims to have seen tracks and droppings of coyote + bobcat. Knows of no skunk control by native people.

(4) Marge ---, assistant at the natural area. She did some phoning around and learned from Mr Nelson (Superintendent ?) that they have killed

22 cats in the last year, all between the nature area and the Brazilian Room, mostly near the footbridge, and "none near my area".

April 17 a phone call from Mr Nelson, director of the nature program in Tilden Park, disclosed the following information about cat control in the park: 15 cats were shot by the Ranger Patrol in August, September, and October of 1963, 5 of them in nature area, 3 on archery range, 2 at Fern Picnic area, and the other 5 at various places between the playfield and the train ride. This information came mostly from Ranger Souza, who did most (or all?) of the actual control. In addition to these, there were about 9 killed or removed from the nature study area by the naturalists at ~~2~~ the same time = 24 from within 1½? miles of my area.

April 20 Put 100 museum ~~Specials~~ = Sherman traps on Tilden Grid at 3 p.m. Data lush. No good runways but several piles of cuttings. Lots of droppings. Saw no cats.

Talked with Jim Roof in Tilden botanical garden. He says they planted thousands of pines in 1939 but mice killed all of them. He planted thousands more in 1940, many of which have survived (to his disgust). He protects cats in botanical gardens. Says he arranged a cat control in ± 1947 and that

there was a big mouse plague the next year, so he has opposed cat control ever since. Has seen no wildcat or coyote for many years, but used to see lots of grey foxes, sometimes sick ones. Says foxes are still present. Says golf course people used to poison skunks routinely and he assumes they still do.

April 21 Ran traps at 8 a.m.: 10 miniture and 2 Sorex. Left all traps set except the 10 mike traps. Saw no cats.

at 4 p.m. traps held 2 mike and 1 Gerbonotus. Picked up every other trap, leaving 50. No cats seen.

April 22 at 7:30 a.m. traps held 3 mike, nothing else. Left all except three set. Cloudy. Lots of mustard blooming on area and on hill beyond Sleepy Hollow. No cats seen

at 3 p.m. saw no cats, traps held 1 miniture and 2 Gerbonotus. Saw 2 other Gerbonotus. also saw gopher snake yesterday. Shifted traps (50) to alternate sites.

Graduate student Jim Nee, who is watching cats near Krahs' area in Tilden, says he talked with people at the nature area in January or February, told them he was planning to study cats, and they said that in that event they had better stop shooting them, thereby implying that they were still killing cats though the winter (as implied by Parker when I talked with him). Nee also found a dead cat at that time stuffed into one of the picnic stoves

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near the nature area. He has also found near my area a dead cat and a dead skunk.

April 23 Ran traps at 7:30 a.m. Clear + 6 microtus and 1 Rattus. No cats. Finished seed collection.

April 26 Second crop of mustard blooming in Orinda Pasture and beyond Sleepy Hollow. Photo.

May 1 John Davis says microtus are very abundant at Huntsinger Reservation this year.

May 4 Picked up seeds in Tilden. Saw no cats or skunks. Gopher digging about as numerous as a few months ago. Saw a grey striped cat on Inspiration Point — Orinda road, and a yellow one there last Friday.

May 20 Picked up seeds in Tilden. No cats seen. Lots of mustard blooming. (1 cat seen near Brazilian room, Alley).

May 21 Picked up seeds. One dark cat at rock outcrop, but very few seeds. Counted fresh gopher digging along trails on my area = 61, grass pretty dry in most places.

May 25 Pantelli says lots of microtus this year at Oakland airport.

May 30 Weasel DOR at Charles Hill overpass, one freeway. Also, saw grey fox at 631 Miner Rd. Orinda at 7 p.m. carrying prey on road.

June 2 Set 47 stations in Orinda Pasture at 5 P.m. Lots of mustard in flower. Lots of mouse sign x (Every other trap station)

around my mouse-watching tower site, where last year microtus was packing in every trough drifts of thistle seeds, there are hardly

very thistle, almost all annual, weed of any grid area is, this year, pure annual, about 6 sq. ft. Old. In the middle of these areas of annual are occasional weeds a few feet in diameter where perennial has grown up and been cut down by mowing, leaving "stumps" and bare earth.

Many two plots have been cultivated by mice. The lines are, in grass (but little rate), in about the same weeds as ours, except weeds is one flower, more outside. The different plots, surrounded by pure annual, contain some annual and about 20 live plants (several of which have been cut). There is the only area for mice around.

June 3 Rain light at 7:30 a.m. 13 sparrows (some young, several big of 24 only one milk often regions), 4 Robins (of them young of year), and 1 Towhee.

1965
Pearson

Sept. 25 Walked on my area in Tilden Park with Brian Fitzgerald. Good grass cover this year. Lots of mouse runways and mouse entrances, and lots of scats of carnivores. Saw a coyote? bark, no cats. July + August had lots of days with fog flowing over the hilltop, no real hot spells. Ground under the pine grove at the top of my area was quite damp.

Sept. 27 at 4 p.m. put about 25 museum specials across Knox area in Tilden with Prof. Solsbee, and about 25 along the stream above the playing field in Tilden. Saw no cats on my

Sept. 28 area but one near playing field.

at 9 a.m. traps held (in field) only 1 mike and 1 Reithro. Along the stream 1 Pero calif, 2 townsi, and 2 vanicularis.

David Ondogyn, a student working as a ranger in Tilden, says that they are again shooting cats "to increase the number of quail".

Sept. 29 Put out the Colburn liver in Tilden at 4 p.m. Hot. Saw 1 grey cat on my area. Peanut butter.

Sept 30 Ran traps at 8 a.m. and at 4 p.m. *

Oct. 1 Ran traps at 8 a.m. but not in Por. Started picking up scats on my area.

~~Oct. 2.~~ p. at 4 p.m. put 42 Sherman baited with oatmeal in the pine grove south of my area. All sets were scraped away

mulch, mayor mast with runways, many fairly damp in spite of no fog in past several days. Green spears of grass in a few places and occasionally pine seedlings a few inches tall.

Oct. 1 (cont.). Pine grove traps had 4 Sorex vagrans, 1 microtus, and 5 Pero trivi and 1 Pero maniculatus. Tagged and released the Pero & mice (# 1579 – 1585). 3 of the Sorex were dead, the other was released.

Oct. 2 Picked up carbon traps. all 3 nights warm, clear, no dew.

Sept. 30	AM	lower	1	4	2		
		upper	5	11	2		1
	PM	lower					
		upper	2				
Oct 1	AM	lower	1	4			
		upper	4	7	2		
	PM						
		lower	2	1			
Oct. 2	AM	upper	5	8		1	1
			20	35	6	1	2

also several (3 or 4) Sterrofelmetus Oct. 2 AM.

many sprung - empty on lower line AM on Sept. 30. the upper line was by far the best, especially in the sparse grass portion. the trivi was in the pine grove end trap of the upper line.

Saw a boldly patterned gray & white cat approach the rock outcrop on my area; it was greeted by 2 yellow striped, half-grown kittens. It then disappeared among the rocks nearby. I went up to the rocks and saw the two kittens in a shallow den, with a freshly

killed microtus ~~[illegible]~~ at the entrance. Two other freshly killed microtus lay in another crevice nearby. This makes 4 different cats seen on the area. a red-tail flew over the grey + white cat; no reaction. Saw a Cooper's hawk.

Oct. 4 Picked up scats. Saw no cats. There has been light bulldozing on the main horizontal trails.

Oct. 5 Finished picking up scats on the area = 5 1/4 gallons. Saw no cats.

Nov. 7 First rain, about 1/2 inch. Leaves beginning to come out again on some of the oaks stripped by oak moths. This was a big oak-moth year. Oscar Paris says that microtus was very abundant at the Russell Test Farm in Lafayette a year ago (that is, summer of 1964).

Nov. 9 Picked up scats on left bank of the area. Lots! no doubt some were over-looked at last collection, but many fresh ones. Saw 2 cats: a yellow striped one apparently too big to be one of the 2 kittens seen in October, and a black one with inconspicuous orange brown spots. When seen, the black one was following the yellow one across the skyline fire trail. Also found 1 very dead grey and white one - dead at least 2 weeks, also 1 deer, 1 red-tail, and 1 Cooper hawk. Numerous fresh gopher diggings. Also found an empty, small carton of mouse poison pellets.

Pearson
1965

nov. 11 Finished picking up scats on area (except around a few trees and along the tape lines). Lots more rain.
The final score on the October collection of 5 1/4 gallons: microtus 600, gopher 48, Reithro 42, Peromyscus 8, mus 1, 1 sorex, reptiles 5, bird 3, rabbit 1, plus some jerusalem crickets + cantaloupe seeds. The Pero number may not be precise.

nov. 17 Saw 1 dark cat today on the area and 1 deer. Also 1 grey cat on the Inspiration Point road.

→ Lots of green grass up.

nov. 23 Rain rain rain, almost every day.

Dec. 1. Summary of contents of nov. 11 scat collection: 244 microtus, 19 gophers, 4 herps, 2 birds, 1 neotoma, cantaloupe, jerusalem crickets, 29 Reithros, 2 mus, and 1 Perognathus.

Dec. 7 Picked up scats on part of area. Saw no cats but heard hound owl. Cold, cloudy.

Dec. 8. Picked up scats on part of area. Saw no cats. Cold & cloudy. Lots of green. A lady walking a dog said that cats on my area sometimes moved to a stable near the top of El Toyonal.

Dec. 9. Finished picking up scats on the area. One very dark cat seen. Also, a half-grown black cat right at Inspiration Point. 2 1/2 gallons.

Total contents: 200 microtus, 14 gophers, 1 sorex, 2 mus, 5 Peromyscus, 60 Reithro, 2 herps, + crickets.

Pearson
1966

Jan. 11 Drove past my Tilden area, 3 p.m. with Victor Solera the argentine botanist. Saw 2 dark cats on the area.

Jan. 12 Set Calbom lines at 3 p.m., sunny. Saw 2 cats on the area: 1 very dark one, the other large + fluffy? not dark, but no details. One deer. 3 red-tails covorting over the area.

Calbom

at home there are numerous brush rabbits. Sometimes 4 or 5 run across the drive as I drive down. The gum tree has lost only about half its leaves so far. Lots of fruit. During the December cold weather the ground was frozen solidly in various shady spots below the tennis court.

Jan. 13 Clear. Frost in Orinda but not in Tilden. Calbom lines held. 8 AM 1 Rattus on lower line. nothing else, about 6 springs empty. Saw no cats. Raccoon tracks along lower trail and about half way up the hill.

The amount of "cover" is probably near minimum at this season, the new growth is not tall enough to "cover" and the old dry stalks are rotting away rapidly.

Saw only a few fresh runways, while setting the Calbom lines, and no droppings. Picked up traps.

In Pop (sunny) nothing in traps. Saw 1 or maybe 2 black cats.

Jan 14. Morning sunny. Frost in Orinda, not in Tilden. 1 Rattus in lower line. Saw no cats. Didn't run traps in p.m.

Jan 15 Morning sunny. Picked up traps: 1 Rattus in lower line and 1 Sorex and 1 adult Microtus in upper line.

Pearson
1966

Jan 15 (cont.) Summary of Colborn Finca:

	Jan. 13	Jan 14	Jan 15
Lower Finca	1 Reithro	1 Reithro	1 Reithro
Upper Finca	0	0	1 microtus, 1 Sorex.

total = 3 Reithro, 1 mike, 1 Sorex.

note that in spite of the very low mouse density, at least 2 cats and 1 raccoon are still working on the area. Saw no cats today

Finished picking up scats = 1½ gallons total

They contain 107 (107) mike, 34 Reithro, 18 gopher, 1 bird, 2 herps, 1 rabbit, 3 Peromyscus and 0 mus.

Feb. 10 Picked up scats on area at noon. Sunny, cold, windy. Saw 1 dark cat on area. a fair number of gopher diggings.

Feb 15 Finished picking up scats. Clear, cool. no cats seen. total 0.7 gallons. Contents: 26 mike, 9 Reithro, 10 gophers, 1 neotoma, 2 Sorex, 1 herp, a few crickets.

Feb 28 6 rabbits along driveway at one time. almond trees just beginning to bloom.

march 8 Picked up scats on northern half of Tilden area. no cats seen. Red-tails. 15 sets of fresh gopher diggings seen along these trails.

march 11 Picked up scats along southern half of area. 2 red-tails, deer, 1 white cat, 21 gophers. Total gophers = 15 + 21 = 36; a bare minimum, of course, since these are counted only along trails. Still mole workings at the same place at lower edge of area (southwest of sequoias). These have been there every year, yet only one has been found in scats. Total march 8 + 11 = ¾ gallon, but haven't done around sequoias yet.

march 17 Early mustard in pasture. Zero for march scats: 37 mice, 2 Reithro, 6 gopher, 1 Neotoma, 1 rabbit, 1 herp, 1 bird

april 5 Picked up scats on about 3/3 rds of Tilden area. 33 fresh sets of gopher diggings. Saw no cats, no minotus sign.

april 14 Picked up scats on rest of area. Warm + Sunny. Saw 2 cats, a dark one and a pale tawny one. no minotus sign. 11 more sets of gopher mounds. 1 small rich garter snake. Mole diggings at same place. Total 1 pt.

april 28 Contents of April 5 + 14 scats: 22 minotus, 1 Reithro, 2 gophers, 1 rabbit, 1 bird, 1 lizard, 1 Sorex trowbridgii, 1 Sorex vagrans.

may 5 Picked up scats on about 2/3 of Tilden area. Sunny, cool-ish. Lots of mustard blooming, oats ripening. no rain for more than a month. Lots of redwings in the weeds on the hillside. Saw 2 large Scelopores, 2 large Zenomotus, 1 dead shrew, 1 ring-necked snake, and 53 sets of gopher diggings. Saw no cats. Not many droppings (± 1 pt.), only 1 really fresh.

may 6 Set 39 Shermans in lower part of pasture. Quite a bit of mouse sign (droppings and runways), but not real fresh. 8 PM,

may 7 at 7:30 a.m. traps held 4 Mus, 4 minotus, and 1 old Reithro. Horned owls hoot every night.

may 10 Picked up remaining scats. no cats seen. 12 more gophers = total of 65. 1 large Scelop. Total volume of scats for may 5 + 10 = 1 pt. This contained 15 mice, 2 Reithro, 5 gopher, 4 herps, 1 bird, and 5 eggs? (intact fluid-filled sacs the size of small grapes).

1966
Pearson

June 8 Put out Calhoun Lines at 4 p.m. with Fitzgerald. museum specials baited with peanut butter. Saw no good runways, cuttings, droppings, or whitewash. no cats. Picked up some scats along the Calhoun lines.

June 9. ~~Fog~~ Clear. in a.m. Traps untouched. Saw no cats.

June 10 Fog in a.m. Traps with 1 large slug (under pine tree) and 1 Sorbonatus. no cats

June 11 Clear in a.m. Traps with 1 vicinus on lower line and 1 vicinus on upper line. 3 deer seen, no cats, many red-wings on the area this year. Grass cover fairly good in spite of dry spring months.

Scats. Picked up 1.2 qts scats along the Calhoun lines. These should be pro-rated back to January when the Calhoun lines were run last.

June 17-18 Picked up scats. No cats seen, 1½ qts scats. 59 sets of gopher holes.

The Calhoun scats contained: 11 "eggs", 22 mice, 3 Reithro, 5 herps, 6 gophers, 2 Sorex, 1 rabbit, + 2 birds.

The scats from the trails contained 13 mice, 2 Reithro, 2 Peromyscus, 2 birds, 1 rabbit, 2 herps, numerous "eggs", and 8 gophers

July 18 Picked up scats in AM, considerably mustard still showing. Saw no cats. 1 Redtail and 1 marsh hawk.

July 19 Finished picking up scats in Por. Saw marsh hawk again, no cats. Some new trail bulldozing since yesterday, partly new trails and partly scraping of old trails. Several

hundred yards of old trail had been scraped so recently as to destroy any scats that might have been found on them. Saw covey of young quail on area; some grasshoppers. 3 bundles of bird feathers, 50 sets of gopher diggings. Total collection of scats = 1.3 gtr. containing grasshoppers plus 10 microtus, 1 Rattler, 1 lizard, 1 bird, and 3 gophers.

July 30 Went for walk along ridge above my Tilden area and saw that 5 to 10 acres of the southwest corner of my area have been disked disced or bulldozed.

aug 25 Went to Jersey Island in the Delta with Owen and Lynch. Study area is ± 200 acres of pasture with cattle. Grass green, lush, thick, excellent microtus cover. at 6:30 a.m. there were several barn owls, several short-eared owls, 2 or more marsh hawks, and about 20 Bitterns hunting over the pasture. Put out 38 Sherman (rolled oats) and 42 Museum Specials (cornmeal) at 7:00 a.m. Some worm sign, but not a lot. The cover is so thick that there are few "offroad" runways. Didn't see any place with more than 1 foot of visible runway visible. In the mud along the river saw tracks of coon, opossum, rat, and along the road, cat + dog.

Watched bitterns catching microtus with rapidity and ease. 3/4 ths of their stoops were successful. Talked with the owners (Halsey) who were quite knowledgable, interested, and cooperative.

at 11 a.m. the traps held 1 mouse (peromyscus & microtus) no

and corpora lutea but not lactating). Incredible that the raptors were catching so many while the traps caught only 1!

Sept. 7 With Gallopin and Carol to Jersey Island in the Delta, arrived 9 a.m. 24 kites perched or flying over the area, plus 1 marsh Hawk and 1 Swainson's. Rat traps with anise + jam lunch = a few microtus.

Sept. 13-14 To Laguna Creek with Koford to see Fitzgerald microtus area. Arrived 1 pm, stayed overnight, left noon. Night clear, 20°F, light frost with heavy crystalline frost on the grass above each open microtus burrow. This made counting open burrows very easy and revealed many that would have been missed. There were hundreds on this grid where our traps caught only 1 mike and 1 Sero, so it must not reflect occupied burrows only. There are considerable differences in mouse densities in different meadows, and striking differences in composition & density of cover of different parts of the same meadow (due to soil?, drainage?, spring flooding? etc.), with such a short growing season, a week or two difference in snow melt or drainage in the spring could make a big diff in production and even species composition. This has been a very dry summer.

Splendid fresh beaver cuttings and dams at one of Dave Taylor's sites. They have cut almost every aspen for hundreds of yards of stream. They utilize relatively little.

1966
OP Pearson

Sept. 17 Bulldozer working on the Tilden study area. about 1/4 of the area completely scraped (lower right looking from road) up to about the 2nd horizontal trail. All remaining sequoias have been disked.

Sept. 27 Drove around in the country east of the San Pablo reservoir looking for barn owls. Several "good" barns and old buildings but no pellets or signs of owls. One rancher in a "perfect" location said he hadn't seen any owls for years. Also no bat sign.

Forgot to note that morning of Sept. 18 Carol and I counted >47 vultures in a eucalyptus tree at the south end of the San Pablo Reservoir!

Oct. 2. Heard first golden crowns.

Oct. 9 Put up a barn owl nest box on Coleman property in Orinda.

Oct. 10 at 4:30 p.m. set out the upper Calhoun line on my study area in Tilden. The lower line has been mostly bull-dozed away for the new golf course. Bulldozers still working, but probably far enough away so that they will not affect the mice. No mice anyhow; saw no runways, no scats, no urine whitewash. One black cat dead on road near the sequoias, one sparrow-hawk hunting over the area, 2 red-tails sparring in air, and 1 deer. Fog coming in as I was setting.

Oct. 11 AM overcast. Trap. held 1 Reithrodontomys. 5 PM Trap held nothing. Saw on the area 1 cat (black with brown saddle). Picked up scats on the part of the area not bulldozed.

1966
Pearson

Oct. 12 Overcast. Traps held 1 Reithro. Didn't run them in p.m. Put an owl nest box in a cypress tree about a mile north of the Briones Valley School. Owner of the ranch says no owls around. Land owned by water company. [=0.8 mi. NW Briones Valley School]

Oct. 13 moving cloudy + windy. One Reithro in trap. Saw covey of >15 quail on the area.

Summary of catch on the upper Calbernline (60 traps at 20 stakes) — 3 Reithros, (one each night). Total rat collection = 3½ qt (2 (>1 qt along upper line)

Oct. 19. Put an owl nest box in an oak and an owl box in the west barn on the Munes ranch 2 mi W Briones Valley School. Bats in this barn. In the bowl of the Munes ranch saw 1 marsh hawk, 2 sparrow hawks, 1 cooper hawk, plus lots of blackbirds, doves, pigeons, and meadow larks.

Oct 28 Contents of the Oct. 11 rat collections: 22 microtus, 10 Reithro, 2 Neotoma, 2 rabbits (1 of them tiny), 7 gopher, 4 birds, 3 Lorep, 18 herps, some seeds, and many (dozens) of jerusalem crickets,

Pearson, O.P.

1967 - 1971

catalogue

4528 - 4572
4635 - 4648
4716 - 4728
4744 - 4746
4748 - 4749

California localities

Pearson
1967

5 mi. NW Vallejo, Solano Co., Calif.

+marrow
4528 ♀ Reithrodontomys — caught April 19, killed July 12 very fat
145 × 72 × 17 × 13 16 g.

+marrow
4529 ♀ " — caught April 19, killed July 12.
168 × 90 × 19 × 14 16 g. very fat

mouth San Pablo Creek, Richmond, Contra Costa Co., Calif.

+marrow+testis
4530 ♂ " ramentina ramentus — SV 6 mm
153 × 78 × 18 × 15 testis 6 mm 12½ g.
killed July 17, caught

5 mi NW Vallejo, Solano Co., Calif.

+marrow
4531 ♀ Reithro — caught April 19, killed July 21, 1967
157 × 81 × 17 × 14 11.5 g.

+marrow
4532 ♀ " — caught April 19, killed July 29, 1967
159 × 84 × 19 × 15 18 g.

+marrow+testis
4533 ♂ " — caught April 19, killed Aug 3
159 × 84 × 17½ × 15 14 g.

1½ mi E. Mendocino, Mendocino Co., Calif.

4534 ♂ Zapus pacificus — testis 5½ mm — caught Aug 6 killed Aug 7.
148 × 65 × 16 × 9 10½ g.

5 mi NW Vallejo, Solano Co., Calif

4535 ♂ Reithro — caught April 19 killed Aug 12
152 × 81 × 17 × 15 12 g TG, SV 7.

4536 ♀ " — "
163 × 85 × 18 × 14 12½ g

1½ mi E. Mendocino Mendocino Co., Calif

4537 ♀ Eutamias — caught Aug. 6 killed Aug. 16.
252 × 104 × 37 × 21 76 g.

3 mi. N Fort Ross

large ♂# 4551 ♂ microtus — 186 × ~~50.0~~ 60 × 23 × 17 — caught Aug. 13, killed Aug. 14
50.0 g. T8, SV 12.

mouth of San Pablo Creek, Richmond, Contra Costa Co., Calif — caught 7/27 killed Aug 10 1967

4552 ♂ Reithro — 151 × 76 × 17 × 15 — 17½ g. T6½, SV 6

3 mi. N Fort Ross, Sonoma Co., Calif.

4553 ♂ microtus — 165 × 52 × 22 × 16 — caught Aug 28
53 g. T3½ killed 9/1

1967

Orinda, contra Costa Co., Calif. aug. 25, 1967

marrow 4554 ♂ Reithrodontomys megalotis 133×59×17×13 8.7g. T 6 mm.

4555 ? Sorex 93×36×11½×7 3½g.

1½ mi. E mendocino, mendocino Co., calif

4556 ♂ Sorex trow. 110×50×14½×8 5g. T3 caught aug 6 killed aug 26

Orinda, contra Costa Co., Calif

marrow 4557 ♂ microtus calif 186×55×22×15 aug. 26. 47g.

Brooks Island, contra Costa Co., calif. aug. 30

marrow 4558 ♂ microtus calif. 191×63×22×16 45.0g. born in captivity from Brooks Island stock ~25 June. [♀1339 × ♂1336]

marrow 4559 ♀ " " 156×50×21×15 28.5g. as above but parents ♀1337 × ♂1336

Orinda, contra Costa Co., calif. oct. 11

4560 ♀ microtus 175×48×20×15 37.7 palms open, wt yellow

4561 ♀ " 160×45×20×15 33.2 palms open, wt. scant

4 mi. W. navaro, mendocino Co., calif

Oct. 14

4562 ♀ Sorex vagrans 144×63×16×7 10g.

4563 ♂ " 118×49×13×7 5g.

note # 4565 ♂ " pacificus 147×60×16×9 testes 6 mm 11g.

2 mi. SSE Elk, mendocino Co., Calif

note # 4564 ♂ Sorex vagrans. 103×43×13×7 4.5g.

2½ mi. E Caspar, 450 ft, mendocino Co., Calif

Oct. 25.

note # 4565 ♂ Clethrionomys caught by P. Brunell 166×49×20×14 mm. testes 8 mm.

~~4566~~

Pearson
1967

nov. 1

4566 ♂ microtus — collected from Libertad — testis 5 mm
196×63×22×16 55g.
born date 27 July, 1967 from ♀3 (pp. refs #4)
and ♂30
dates are alone.

nov. 2

4567 microtus — 172×51×22×14. 37g.

Hastings Reservation, Monterey Co., Calif

4568 ♀ Pero. boylii? — [99]×[0]×22×21 24.0g.

3 km. SE Mörrope, Lambayeque, Perú. caught 9/3, killed 12/28/67

in formalin
4569 ♂ Parabuneyp — [91]×[6]×20×17 16g testis 8 mm

in formalin
4570 ♂ Parabuneyp — killed 4/4/68
166×79×21×18 17½ g. testis 8 mm.

Tilden Park, Contra Costa Co., Calif. Jan. 11

4571 ♀ microtus — 174×50×20×14 45g. 4 fetuses
testis 9½

4572 ♂ " — 192×57×21×16 63g.

Rafael, Perú, Perú. (Pubic? or Pucapaki?)
caught July, 1968, killed Jan 3, 1969

chromosomes
4573 ♂ Calomys callosus — 127×47×18×17 31g. testis

Season
1968
1969

Hastings Reservation,

nov. 2

chromosome
4635 ♂ Peromyscus truei — 199×104×22+24 23.3 g.
4636 ♀ " " boylei — 202 ~~203~~ ×103×21×20 22.5 no embr.

3/4 mi. NE Hastings Res. HQ, 2080 ft.; (NE corner S4, T18S, R7E) Capt. by SB, Beamer

nov. 4

chromosome
4637 ♂ Pero. truei — 198×106×23×22½ 21.0 g. testes 3½ mm
chromosome
4638 ♀ micetus calif — 167×50×20×16 no embr. 38 g.

jan. 3, 1969

Dist. of Pero, Peru (julianae? or chacuyani?)

chromosome
4639 Calomys lepidus — 127×47×18×17 21 g T8, 5U8 — caught July, 1968, killed 1/3/69

jan. 24, 1969

~~4640~~ 0.6 mi NW academy, 520 ft., Fresno Co., Calif.

4640 ♂ Thomomys — 196×59×26×6 88 g. T4½

jan. 25, 1969

4641 ♀ Thomomys — 192×54×26×7 100 g. 5 mam. nip. large
chromosome
4642 ♀ " — 172×51×26×6 48 g. ut. juv.
4643 ♂ " — 259×80×29×9 175 g. T 18

2.9 mi N 1.4 mi E Clovis, Fresno Co., Calif

chromosome
4644 ♂ " — 212×57×30×7 120 g testes 5 mm ut. wide
4645 ♀ " — 210×68×29×7 110 g. no embr.

0.6 mi NW academy, 520 ft., Fresno Co.,

jan. 26 (caught jan 25)

4646 ♀ Thomomys — 189×49×26×7 111 g. ut. milk mam.
4647 ♀ " — 148×50×23×6 40 g.

1867
Pearce

4648

catalog

Hastings Reservation, Mt., Monterey Co., Calif

June 9

chromosome
4648 ♂ meiotics Calif.

no colcemid
160 × 48 × 21 × 14 testis 6 SV 5

Pearson
1969
1970

4 mi W. Navarro, mendocino Co., Calif.
Oct. 18, 1969

chromosomes
4716 ♂ Scott trombidegei
chromosomes
4717 ♀ " trombidegei

118 × 53 × 13 × 9 6.9 g
120 × 54 × 14 × 9 8.0 g.

5 mi N Point Arena, mendocino Co.
oct 19

chromosomes Scott?
4718 Scott vagrans
chromosomes
4719 Scott? " "

111 × 41 = 12 × 7. 4.9 g.
105 × 42 × 13 × 8 5.3 g.

captive born from Pacuma, Dept. of Loja, Peru
Dec. 18, 1969

chromosomes
4720 ♂ Phyllotis darwini limatus

taste 7 SV 14
235 × 128 × 26 × 25 45 g.

Jan. 20, 1970

in formalin
4721 ♀ " " "
in formalin
4722 ♀ " " "
in formalin
4723 ♀ " " "
in formalin
4724 ♂ " " "
skeleton only
4725 ♂ " " "

226 × 124 × 25 × 25 42.3 g.
190+ × 75+ × 26 × 25 51.5 g.
220 × 117 × 25 × 25 28.3 g.
265 × 139 × 26 × 27 73.4 g
179+ × 60+, 28 × 27 58.3 g

captive born, probably Casapalca stock, maybe limatus from Pacuma.

4726 ♂ Phyllotis darwini posticalis (maybe limatus) 66.3 g taste 10 SV 20
253 × 130 × 28 × 25

16 mi. N Green Valley, Pennoyer Valley, Lassen Co., Nevada
caught March 8, killed March 18

chromosomes
4727 ♂ Microdipodops
caught by Blair Counts
165 × 94 × 25 × 11
chromosomes
4728 ♂ Dipodomys ordii
caught by Blair Counts
255 × 146 × 40 × 11 55.6 g.

Pearson
1970

Catalog

Oil Creek, 3 mi. N Capetown, Humboldt Co., Calif

July 30

4744 ♂ arboreus — caught by Bob Jones, bird no. 254 — 129×47×17×10 — 15.0 g. juvenile

4745 ♂ " — ar arbor. bird no. 255 — 129×48×19×11 — 15.5 g. "

13 mi. E. Arcata, Humboldt Co., Calif

4746 ♂ Peromyscus maniculatus — caught by Bob Jones bird no. 256 — 24 g. 196×100×21×19 ½ — 24 g.

Pearson
1971

1 mi SE Inverness, 25± ft, Marin Co., Calif

March 10, 1971

chromosomes
4748 ♀ Scaphiopus

caught by Benson ~~3/7~~, killed 3/10
180 × 33 × 22 × 0 6.2 g. no emb.

4.3 mi. N. Bridgeville, Humboldt Co., Calif.

April 23, 1971

chromosomes
4749 ♀ Rhyacotriton kezeri

caught by Bob Jones Dec 23, 1970 dia #20 426
thick 25.0 g "young". Killed April 23
170 × 74 × 20 × 13 24.5 g. no emb.

Pearson, O.P.

1967 – 1971

Journals

California localities

Pearson
1967

march 28 Set 30 Shermans in Orinda Pasture at 5 p.m. A fair number of runways. at 10 Pm had 2 Reithrodontomys and 1 big microtus. Pushed up traps.

The mustard and thistle still dominate the pasture, the ½-inch mesh enclosure is almost all weeds, but a few oats. These are the only oats visible for several yards around.

April 19 Set 80 Shermans baited with oatmeal ~~and~~ plus a few drops of Safflower oil along the edge of Salicornia marsh and out into marsh along the Lower Point road about 5 miles NW of Vallejo at 4:45 p.m. Clear and cool. Saw no microtus sign while setting (and very little last Sunday when we turned over boards near here). at 6:30 p.m 4 mus (3 of them kept). at 8:30 1 mus and 6 Reithrodontomys. at 10 Pm 2 Reithrodontomys (clear, ½ moon). at midnight 3 Reithrodontomys and 1 Sorex. at 3 a.m 4 Reithrodontomys, 2 Sorex, 1 mus, 1 Microtus (about 20 grams). at 5:30 a.m. 4 Reithrodontomys. Light frost on boards in marsh but not on car, Heavy frost on roof at home,

The spring this year has been very cool and rainy.

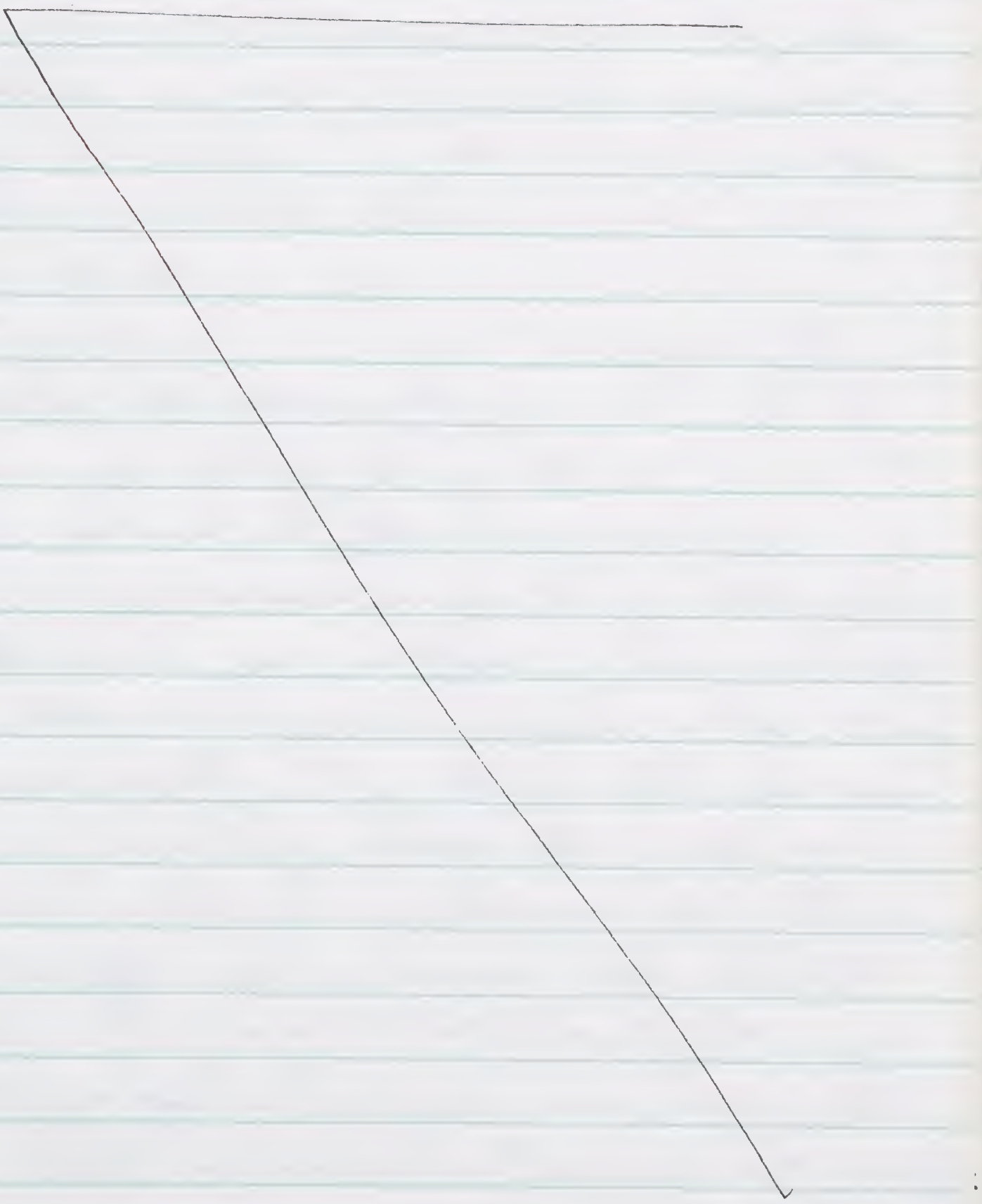
April 25 Set marsh at mouth of Wildcat Creek in Richmond. 4 Pm set 75 Shermans baited with rolled oats in Salicornia marsh. Clear, cool. much more water in marsh than 2 weeks ago. Saw very little microtus sign and only one mouse while setting.

at 6 Pm traps held 1 Reithro raincentris (sun not

set yet) and 1 small minotaur

at 9 p.m. 1 Sorp, 2 ravenettes and 2 minotaurs.
at midnight 2 rikke and 2 ravenettes. moon up about
10 p.m.

at 3 a.m. 1 rikke. at 5:30 a.m. 1 rikke.



1967
Pearson

July 8 To Hastings Reservation with Carol and Judy Johannesson at 7 p.m. put 32 Sherman + oatmeal on the edge of grass-chamise on top of School House Hill. This includes about 8 traps on a branch line extending down into "pure" chamise. There is a fringe of deer weed (yellow-flowered legume) around this and other patches of chaparral, as well as occasional deer weed scattered through the chamise. Enough forbs and grasses in the chamise to provide food for mice. Weather clear, not hot, no moon.

July 9 Traps at 8:30 a.m. Held 5 Peromyscus truei (3 adult ♀♀ with conspic. mufflers and 2 adult ♂♂). One of them was shot 15 yds in, the rest around the edge. Released all. Chamise was blooming.

There was an enormous quantity of rabbit droppings near the brush-grass interface. I saw no rabbits but Vasbeck + Carol saw one and agreed that it was a brush rabbit, not a cottontail like those common around the buildings. Perhaps could study easily by using drift fences with traps openings in them.

July 10 Put out upper Colburn line in Tilden Park at 5:30 p.m. (60 museum specials + peanut butter), clear, not hot, new moon. Lush grass cover (all dry) but no rodents sign and almost no carnivore droppings.

July 11 morning clear, no fog. at 8:10 a.m. ran traps with Diane Walker and Carolyn Cavalier. 2 sprung, rest untouched. ants on pillbugs over far.

July 12 Didn't run Colborn lines in PM yesterday. at 9 a.m. there were 4 Reithrox (clear, warm). 3 of the 4 had hemorragic lungs. accompanied by Ortiz. Didn't run in PM.

July 13 Clear + Warm. at 8:30 picked up traps; nothing in them. a few with pilings or ants.

Aug. 5 1½ mi E. Mendocino, Mendocino Co., Calif. Put out 38 Sherman (rolled oats) until Petaluma at 4 p.m. Sunny. 9 in scrubby bygony forest (P. contorta etc), some in a saw-grass + jerry glade in ~~glade~~ redwood - fir - hemlock forest, the rest along a path through similar forest.

Aug. 6 At 8 a.m (sun coming through light fog) traps held one Sherman (townsendi?) and 5 shrews; no Peromyscus! One shrew (Trowbridgei) dead, one dying, and one alive; two trowbridgei alive. One more trowbridgei at 11:30 a.m and 2 more Sherman before 4 p.m. Picked up traps at 4 p.m. Sunny all day.

Aug 18 3 mi N. Fort Ross, Sonoma Co. Set 46 Sherman with rolled oats at 6 pm, mostly in saw grass along a tiny creek but some on ungrazed meadow where there was microtus sign. at 8:30 p.m one Sorex vagrans dead. (Foggy). Ran traps at midnight, 4 a.m, and 7 a.m. Released 2 Reithro, 3 Pero maniculatus, and about 5 Microtus. Foggy all time.

Aug. 23 Put 24 Shermans in Orinda pasture at 7 p.m. Some sign of microtus but not a lot.

1967

Aug. 24 Trapped 7 a.m. held 3 mice and 1 Reithro.

Sept. 12 To Hastings Reservation with Schriber. Set up a 2 x 2 yd. enclosure (½" hardware cloth with plastic strip) in the field across the creek from Long Field, the wire buried 18" deep to exclude moisture. Nearly set up another similar enclosure but mice not buried.

Sept. 13 Staked out a single Calhoun line in the same field, another through chamise on Hayplank Hill (10 stakes) and along the chamise-grass boundary (10 stakes), and a third line through "blue" oak woodland on Schoolhouse Hill above Davis' lizard area. Saw almost no moisture sign in the enclosure field, more in the woodland, but numerous old "nests" in the grass on Hayplank Hill. Very few carnivore droppings seen except for one concentration of 20 or 30 on Hayplank.

Oct. 8 Orinda. Put 22 Sherman at 6 p.m. along the fence between our pasture and Fitzgerald's. Clear, warm. at 9:30 p.m they held 3 Peromyscus (all released).

Oct. 9. at 7 a.m traps held 2 Peromyscus and 1 Reithro and 1 Mus. Left the mus. No sign of moisture.

First rain this year was about ½ inch on Oct. 3. new grass is not up yet.

3 mi. W. Navarro, Mendocino Co.

Oct. 13 With Rees put 95 Sherman at 4:30 p.m. through redwoods near north fork of Navarro River. a little Doug fir, tan oak. Lots of downed logs, thick duff etc. Baited half with rolled oats and half with rolled oats and sunflower oil. Checked traps at 6 p.m. Empty. Checked traps at 9:30

(1 Sorex/ pacificus and about 8 Peromyscus maniculatus), 12 minute (1 Sorex pacificus and about 6 Peromyscus), 2:30 (1 Sorex trowbridgei and 1 S. vagrans or trowbridgei plus about 6 Pero), and at 5:15 a.m. (about 5 Peromyscus). The Pero were released at time of capture except for about 10 of the earlier ones

Oct. 14 Picked up same line at about 9 a.m., no more shrews. Half of the traps were baited (alternately) with rolled oats and half with rolled oats plus sunflower oil. at 10:30 p.m. when, owing to re-baiting with straight oats, we stopped count, the score was about 15 to 16.

Left at noon and drove to mouth of Elk creek 2 mi. SSE Elk where we set traps in grassy-weedy ungrazed meadow bordered by blackberry, thimbleberry, alders, equisetum, thistle, nettles etc. Numerous mice runways when we set at 1:30 p.m. Ran traps about 3:30 and had 1 Sorex vagrans and 2 big mice.

Ran traps every 2½ hrs and caught large numbers of Peromyscus maniculatus (about 10-15 each run), a few Reithrodontomys, and a few mice plus one more Sorex vagrans dead in the traps.

Oct 15. Picked up traps about 8 a.m. and set in two sour-grass bunch-grass areas near Albion and Mendocino. Caught many Microtus (about 8) in one of the places with about 25 traps, but no shrews (set between 10:30 a.m. and 1:30 p.m.)

Oct. 28 Academy, Fresno Co., Calif. arrived with class about 12:30 PM and started setting gopher traps near the cemetery ½ mile NW of academy. Soil mostly hard red, but some very sandy + gray near the river (flowing). Very little recent gopher sign, but made perhaps 15 good sets. Then looked at the Granite Quarry (only one good set of red soil) and the Blue Ridge Ranch (½ mi. NE academy) where a new Bermuda grass lawn had some good diggings (light fluffy gray soil) and where a very hard red wheat? field had a few good diggings. Left about 15 traps at these places about 3 PM, and 4 two or three along another road ¼ mi. N academy.

at 5:30 put 4 traps (rolled oats) along the grassy-weedy edges of the wash and around a corral. Saw lots of ground squirrels. Nice warm evening with lots of locusts and other insects flying but saw no bats or owls.

Oct. 29 We ended up with 20 gopher traps set near the cemetery, most in hard red soil but some in light gray or even pure sand. Caught only one gopher in these (O.P. 1 in gray soil just in front of camper). One in red soil was sprung with hair. at Blue Ridge Ranch the 15 traps caught 4 gophers, all in gray soil with green grass. 5 Peromyscus maniculatus were caught in mouse traps

at 8:30 set traps in a green meadow along a creek 1½ mi. NE of academy (dark grey soil) and about 10 traps along the road SW of academy. Then about 15 more in pale soil in alfalfa fields 6½ mi. NNW of clovis. at

1967

1 o'clock we had 2 more gophers in the meadow NE of academy and 1 NNW of Clover. Then home.

nov. 10 Hastings Reservation. With Peter Grogan met the three Calhoun Lines between 3:15 and 5:30. Saw no microtus sign along the grass Calhoun line + Spider hunting after supper.

nov. 11 Ran trap lines at 7 a.m with the class. 7 spring-ruptures on the Chaparral line, 6 in the grassland meadow, and 2 in the oaks. For various catches see later. Night was clear, warm, half full moon (). Griffin says no acorns in our woodland this year but probably some last year.

checked + re-baited traps at 4 p.m. Only catch was one Bewick wren on the edge of the chaparral at Sta. 17. Saw a badger on the way back from traps and a grey fox while spider-hunting after dark.

nov. 12 Ran traps at 7 a.m (night overcast, warm). See below for catch. 5 spring-ruptures on Chaparral line and 2 in oak woodland. Overcast all day.

Checked traps at 4 p.m. In the chaparral line were a hermit thrush at Station 17 and a golden crown sparrow at Sta. 18. About 40 wrapbirds at dusk flew into the oaks on the west side of Jubal Hill.

As I was walking along the fence under the power line 100 yards west of the pumps at the bottom of Haystack hill, I noticed a patch of somewhat green Elymus grass and thought it would be where I would be living if I were a microtus.

Pearson
1967

In three days we have not seen a single moisture droppings or whitewash, but in this patch of Elymus were lots of runways and fresh droppings. A few runways of sorts run as much as a yard or so out into the surrounding dry oats, but little if any sign beyond that distance. the patch of Elymus is an ellipse about 5 × 10 yards and is completely isolated from any habitat other than dry grass-weed × John Davis says this patch has been there for years + years. There are some patches of a different perennial grass (broad, sharp-edged leaves with heavy upright seed heads) at the creek edge of our Grass-Calhoun meadow, and I saw a few moisture signs in these ×

Nov. 13 Ran traps at 6 a.m (still dark) × Slight drizzle for part of night, but grass not wet × Picked up traps.

Total catch for 3 days as follows:

NOV. 11		NOV. 12		NOV. 13
AM	PM	AM	PM	AM
		Chaparral		
6 towi	1 Bewicks wren	2 towi	1 hermit thrush	1 towi
7 sparrow		1 newtown	1 golden cr. sparrow	4 sparrow
		5 sparrow		
		Oaks		
2 towi.		1 towi		13 sparrow
1 wawic.		2 sparrow		
2 sparrow				
		Grassland		
8 wawic.		6 wawic.		8 wawic
1 Rufous		1 Rufous		1 Rufous
7 sparrow		3 sparrow		4 sparrow

There was 1/3 inch of rain about early October this year. (Hastings)
Some grass sprouted but there is no sign of it now.

nov. 29 Berkeley. Put 41 Sherman-cats in a pine grove along Skyline about 1 mile south of Fish Ranch Road at 5 p.m. Rain off and on most of day. Ran traps at 7:30 (3 Peromyscus truei) and 10:30 (1 Sorex trowbridgii).

nov. 30 Picked up traps at 8 a.m. (2 Peromyscus truei and 1 dead Sorex trowbridgii). All traps were in pine-needle duff.

1968
Pearce

jan. 8 Put out Calhoun trap line in Tilden Park at 3 p.m. Upper line only, 60 Museum Special traps baited with peanut butter Cold & cloudy. Saw a few runways, 2 red-tails, sparrow hawk. also put about 24 Shermans in some concrete and below a fire trail in mustard-thistle where there were a few runways.

jan. 9 Trip very cold and cloudy. Calhoun line had 6 Reithros. 8:30 a.m. The Shermans had about 10 Reithros and 2 Peromyscus maniculatus. The 18 Reithros and 2 Peromyscus were released. Run traps again at 3 p.m. 1 microtus in the Calhoun line, 2 in the live traps, plus some Reithros in the live traps.

jan. 10 Heavy rain sometime between midnight and 4 a.m. most of the Calhoun mouse traps were sprung by the rain. Caught in Calhoun line were 11 Reithros and 1 Sorex. The 24 live traps held 1 Pero maniculatus and more than 19 Reithros. Saw sparrow hawk.

~~jan. 7~~ Run traps at 5 p.m, cold & clear. Calhoun line had 1 mike. Live traps held 5 mikes and 3 Reithro.

jan. 11 Picked up traps at 8:30 a.m. cold & clear, ice on puddles and heavy frost. Calhoun line held 6 Reithros. Live traps (24) held 17 Reithros and 2 Peromyscus maniculatus (one of them a grey immature).

The 24 live traps are noteworthy: mostly set in pairs and close together; jan. 10 caught 1 Pero and 19 Reithros (all kept), then on jan. 11 produced 2 Pero and 17 Reithro.

Summary of Calhoun:

	jan. 9	jan 10	jan 11
AM	6 Reithros	11 Reithros 1 Sorex immature	6 Reithros
PM	1 microtus	1 microtus	

Total 3 days: 23 Reithros, 2 microtus, 1 Sorex.

Hastings Reservation

Feb. 10 Put 39 Sherman baited with oats in the grassland parallel with the Calhoun line, 3:30 p.m. Some runways at north end but none at south end.

The field above the water pump (especially the end near the island of Elymus, is riddled with microtus runways and fresh droppings. Surely several hundred mice there now where there were none in November. The Elymus itself doesn't seem to be as green as it was in November and doesn't seem to have any more runways than in November. No runways over the fence in the grazed pasture. The cover is denser in the Elymus pasture than in the Calhoun pasture.

Along the open ridge leading up to the NE end of Calhoun line are lots of microtus sign (among Stipa) and even some fresh runways in the grass under the oaks near the oak Calhoun line. Overcast.

Feb. 11 night mostly overcast, no frost. at 7:30 a.m. traps held 5 Pero mavic, 1 Pero boylei (last trap before chaparral, tail slipped while being removed from trap), 2 Reithrodontomys, and 2 Sorex arnatus. (Kept the shrews and 1 Pero mavic. at 2 PM (mostly overcast) traps held 2 adult microtus.

June 6 At French set 70 Sherman below the hike road at Inspiration Point in Tilden Park and caught no Microtus, 1 old male Reithro, and 2 juvenile Reithros. a couple of nights earlier 70 traps had caught no Reithros.

1968

June 7 Hastings Reservation. Weather cool. With John Ralph and Carol set the 3 Calhoun lines beginning at 3:30. ~~P~~ Lots of Microtus runways at the north end of the meadow line: lots of droppings, ~~bodies~~, whitewash. One runway at station 20 in the oak woodland. While setting the chaparral line saw brown towhee and Bewick wrens well back in the adenostoma.

June 8 Night overcast, sprinkle mist, grass wet. Oats are almost all dried up. Some of the greenest patches are places where the traps had rained earlier. ~~Ran~~ Ran traps beginning at 6 a.m. Oak woodland had 1 Pero mavicularius and 2 sprung empty, meadow had 1 Microtus, 1 Reithrodontomys, 6 Pero mavicularius, and 4 sprung empty. Chaparral line had 5 Pero true, 1 Pero. mavicularius, 2 Dipo, and 7 sprung empty. Saw 2 or 3 microtus while running the traps including one coming out onto the road several times. In addition, 2 were feeding at the back door of the Davis house. I got the impression that the Microtus peak in the fields may be past. In the brush-grass field going up to the oak woodland line, there is less Microtus sign now than there was during the winter.

During the afternoon installed garbage-can acorn collectors along the oak line. At 4 p.m. checked the meadow line and it held 1 stinking Microtus ~~A~~ + 1 smelly Carol + John ran the chaparral line at 7:30 p.m. and it

1968

held 1 meen-tit, 1 Bewick wren, and 1 spring empty. Both birds were back in the chaparral, not on the edge.

June 9 Night alternately clear & cloudy, some dew but not as much as yesterday. Trap lines at 6 a.m. as follows:

Oak woodland — no mice, 1 spring empty

meadow — 3 mice, 1 Pero mani, 2 spring empty,

chaparral — 2 Dipo, 2 tawi, 1 spring empty.

Finished installing the garbage cans for acorns. The system was as follows: Put a can 6 feet "north" of each stake on the trap line, except in 3 instances - there was no possibility of catching any acorns at the prescribed spot, so no can was left there (or, an imaginary can was left there). Then, garbage cans were put at locations 10 feet "south" of each trap-line stake, beginning at each end of the trap line and working toward the middle. Ran out of garbage cans before reaching the middle, but before that time there were 3 more imaginary cans placed. So, a total of 30 cans covering 36 sample spots. multiply area of one can by 36 to get area sampled

Six p.m. (5) no mice in woodland, chaparral had 1 meen-tit and 1 spring empty, and meadow had 3 empties and 5 or 6 very shady interiors. Carl and John ran this meadow line and saw a badger between M10 and M11, which then went down a hole about 20 yards away. After supper we went back to look for him and spotted a badger lying on a different mound of

Mean diameter of cans = 19.92 inches (avg. of 2 diameters on each of 5 cans)

1968

earth watching us, resting and scratching himself. after about 10 minutes he wandered off and was met by another badger 20 or 30 yards away. Both of them started digging a single hole and after about 5 minutes it was deep enough so that one of them was all the way down it and the second one was disposing of the dirt being excavated by the 1st one (tandem work).

June 10 Ran traps at 5:15 a.m. Night clear, dew in valley but not heavy. Oak woodland traps no mice, none sprung. meadow 1 sprung, 1 Pero maniculatus, 1 Microtus. Chaparral 1 sprung, 1 Dipo,

The hole at which the badger was digging had a big fresh earth pile in front of it; the hole went in about 3 feet then turned left.

Scats: all the carnivore scats seen in 3 days would not have added up to 2 qts, probably not even 1 qt.

Carol had a gratacaballo for in the chaparral.

Summary of 3 nights: Chaparral → 7 Tmei, 1 maniculatus, 5 Dipo, 3 birds. Meadow → 11 Microtus, 8 maniculatus, 1 Reithrodontomys, 0 obs 1 maniculatus.

1965
O Pasamonte

Oct 4 To yosemite with family. at 10:30 PM set 60 museum specials baited with corn meal through mixed pine woods about 2 miles SE Crane Flat, 6,000 ft (yellow + sugar pine, fir, cedar). Full moon.

Oct. 5 Caught 5 Peromyscus maniculatus and 1 thrush. Wally Davis said he had seen about 50 Peromyscus cross the road 2 weeks ago between Crane Flat and the Valley.

at 4 PM put 30 Sherman baited with rolled oats near the Tamarack Flat campground. mostly fir + lodgepole.

Oct-6 Traps held 3 Pero maniculatus, 1 chipmunk, and 1 Sorex.

Oct. 25 Grass in Orinda is up about 2 inches

Hastings Reservation, Monterey Co.

nov-1

at 3:30 set Calhoun lines (museum specials with peanut butter) + almost no green grass yet. Light overcast, moon 4/5. no fresh Microtus runs seen.

nov. 2

At 7 a.m. meadow line had 5 maniculatus and 2 empty; chaparral line had 1 hermit thrush (in no. 3), 4 Peromyscus, and 2 maniculatus + 2 empty; oak woods had nothing although all 3 traps at 17 were sprung. morning overcast with a few sprinkles. afternoon light rain. Serviced traps at 3 p.m., nothing in them, although several sprung by rain.

nov. 3

Considerable rain overnight (0.9 inches). Ran traps at 7 a.m. one trap in chaparral, 3 maniculatus in meadow, nothing in oaks. Removed acorns from the garbage cans along the oak line. Only #14 and 15, both under same big tree, had any acorns-

1968
Pearce

3 small acorns in one and 1 in the other, all with wormholes. Sizes 21.5 × 10.0, 19.1 × 9.0, 18.9 × 8.7, , 15.3 × 7.5, combined weight

Quite a few spring-emergers on all lines — about 10 in meadow, 15 in chaparral, and 20 in oaks.

nov. 4

night overcast, full moon, cool. Ran traps at 6 a.m. Chaparral had 1 from towline (trap site #1), 1 Dipo, and 1 Pero calif. meadow had none. Oaks had one jun. Pero maniculatus

The total catch for Dr. Benson's manual class, trapping mostly on the canyon and on Jimmy Bell's ranch, was 7 Thomomys, 10 Perognathus, 6 Reithro, 27 Pero. calif, 4 maniculatus, 20 boylii, 11 truei, 2 rostrata, and 5 microtus. about 350 trap nights.

1969
Pearson

0.6 mi. NW academy, 520 ft; Fresno Co

Jan 24

To academy with Benson, Leong, Patton, and Carol Patton. Arrived 6:15 p.m., dark + raining. much rain past 2 weeks, everything soggy. much rain overnight

Jan 25

Set about 20 traps near river (swollen) northeast of the cemetery at 7:30 a.m., all in sandy soil. Late increased to 30. Before noon caught 5 or 6 Thomomys, mostly light colored ones + A passing native old-ex worst rains in history.

at noon moved to 2.9 mi N and 1.4 mi E Clovis and camped in field next to mr. Greiner's home.

Set about 15 traps at 1:00 p.m. and caught about 5 gophers by 5 p.m. + Heavy rain overnight.

Jan. 26

Ran traps at 7:30 a.m. 3 or 4 more gophers. At about 8:30 moved to 4.6 mi N 1.4 mi E Clovis, 400 ft. Much more standing water here than at 2.9 mi N. The soil seems to be fairly sandy but quite red. In a swing pool excavation at the 4.6 mi location the sandy red stuff goes down several feet but becomes consolidated into an almost-sandstone at about 4 feet, and a gravelly conglomerate (loose) about a foot thick below that. North of the levee is all flooded this morning, with marooned pocket gophers etc. Set 2 traps about 10 in red sandy on edge of boggy fields. Very few mounds visible

1969
Pearce

June 1 Orinda. The mouse exclosure in the pasture contains tall oats (still green, plus brome + legume with 3" seed pods + 2 large (4-ft) bristly thistles). None of these nearby x nearest oats are 1 or 2 plants 5 feet away. Exclosure is just at edge of advancing common-mustard-thistle. no common or mustard in exclosure x Good tall grass inside and much greener still than surrounding. The oats inside the exclosure are much greener still than any nearby x

The saddle beyond Sleepy Hollow is all green Common this year. Used to be mustard.

The isolated poison oak patch above the Howard's is surrounded by a neat ring of Common x

1969

Hastings Reservation

June 7 Put out the three Calbour lines between 3 and 6 p.m. The chamise is in full bloom. Grass dried up except under some oaks. Clutch of day-old quail at edge of chamise line; parents flushed about 20 yds into the chamise and the young froze. Weather cloudy and cool. Scotch mist after dark and still going at 10 p.m. 14 Sherman's in tall Elymus at Block stump at 5:30 p.m.

June 8 Ran chaparral line at 7 a.m. Cloudy. Grass and chamise drifting wet. Three trivi, 3 mariculatus, and 1 californicus. Otter liver run at 9:30 a.m. One mariculatus in the meadow, one sparrow at post 15 in the oaks. The ~~15~~ live traps, set for microtus, caught one Reithro. ~~Drove up~~

Drove up to the arnold plane with Griffin. All day was cloudy cold, even drizzly. Did not check traps in Por, but set more for microtus in the area near the Block stump.

The exclosure in the meadow definitely has thicker vegetation than outside and than the control false exclosure. Difference appears to be due to absence of gophers inside the exclosure (although there seem to be one unused gopher hole along the west wire, inside).

June 9. Night cloudy, cool, drizzly. Grass + bushes thoroughly wet, as yesterday. Chaparral line had 3 trivi, 1 calif, 1 maric. meadow line had 3 mariculatus. Oak had 1 junco.

Took photos of exclosures: #1 exclosure, #2 control, #3 control, #4 exclosure. #5 instead of Elymus.

All day cloudy + cold. Also photos of oak trap

Pearson
1969

June 9, 1969 Exposure

June 9, 1969 False exposure

Pearson
1969

June 9, 1969. Exclosure.

June 9, 1969 False exclosure

Pearson
1969

June 9, 1969 From School Hill hayfield. oooo = extension added July 5, 1970

June 9, 1969 Island of Elymus in meadow across creek from long hill

Pearson
1969

June 9, 1969 "Oak" Calhoun Line and acorn buckets

June 9, 1969 "Oak" Calhoun Line and acorn buckets

1969

line and of chaparral line from School Hill.

Measured diameter the acorn garbage can as follows: Average inside diameter of 2 diameters at rt. angles on each of 5 receptacles was 19.92".

The 24 live traps set for *micrutus* near burned stump caught 1 *micrutus*.

June 10 Ran traps at 5:30 a.m. Oak line had one towhee (brown); chaparral had one bluebird (edge of chap.) and one *Dipodomys*; meadow line had 1 *mauculatus*. Night was overcast, but grass not as wet as yesterday and day before.

Total for 3 days: chaparral ⇒ *truei* 6, *maculatus* 4, *Peromyscus californicus* 2, *T. b.* 1, bird 1. meadow 5 *maculatus*, Oak ⇒ 3 *truei*.

C.C. Parker
1969

4 mi W Navarro, Mendocino Co., Calif.

Oct.

Oct. 17 at 3:30 p.m. with students put out small Sherman baited with rolled oats, all in pure redwood with good duff, mostly along rotten log 2-2½. Weather mostly clear but had rained very recently.

Oct. 18 Ran traps at 5:30 p.m. (nothing), 8:30 (5 Peromyscus maniculatus), 10:30 (4 Pero), 1:30 a.m. (1 Sorex trowbridgii? vagrans and 1 Pero), 4:30 a.m. (3 Pero), 7 a.m. (3 Sorex trowbridgii? vagrans). On the 10:30 run a spotted skunk ran ahead of the trappers and disturbed several traps. Saw two together on my run at 4:30.

Set 13 Shermans across the road in a grassy glade with logs at 8:30 but nothing caught by noon. Left about 12:30.

Drove through Elk as far as Point Arena looking for good Pacific and vagrans habitat. Ended up at Manchester Beach State Park, which is 5 mi N Point Arena. At 3:30 put 100 Shermans through very lush grass, buttercup, creeping blackberry, "sword" grass, and willow along a swale bordered by grassy meadow with scattered bushes (Baccharis, Ceanothus). Lots of Microtus runways in the sparser open grassy meadows, but the swale vegetation much too dense.

3 bitterns and a marsh Hawk were hunting over the meadow.

Oct. 19 Various students ran traps during night, and I. Two live Sorex vagrans and 1 dead, maybe 5 or 10 maniculatus, a few Reithrodontomys, one "baby mole" turned loose (= Scapanus), and seven of Microtus. Apparently no Zapus. Left for home before noon.

Pearson
1969

Hastings Reservation, Monterey Co.

Oct. 31 With Zoo 207 class at the 3 Calhoun Lines beginning at 3 p.m., Weather warm, has been 0.3" rain so far, moon about half. No good microtus sign while setting.

Nov. 1 no dew on grass
Ran traps at 7:30 a.m. Chaparral → 3 maniculatus, 1 wren, 1 wren tit, 1 brown towhee, 1 Neotoma which broke loose and escaped while trap was being prebaited. Meadow line 1 sparrow empty. Oaks sparrow empties at no. 17. Ran traps at 4 PM – nothing

Nov. 2 Weather clear, no dew on grass. Ran at 8 a.m. Chaparral → 1 truei, 1 Reithro. meadow → 1 Peromyscus and 1 Reithro, 1 sparrow empty. Oaks → 1 Peromyscus, 3 sparrow empty at no. 17. Nothing in PM. Saw flicker and another woodpecker (nuttal?) emerge together from middle of chamise, fly to a stub and land within 6 feet of each other, then return to chamise.

Nov. 3 Cloudy. No dew on grass. at 7 a.m traps back: Chaparral → 1 maniculatus, 2 truei, 1 wren-tit. Meadow → 1 Peromyscus, 1 maniculatus, all 3 traps gone from #18. Oaks → 2 sparrow at no. 17.

Total, 3 nights:	Chaparral	meadow	Oaks
	3 truei	1 maniculatus	1 Peromyscus
	1 Reithro	1 Reithro	
	1 Neotoma	2 Peromyscus	
	4 ~~3~~ maniculatus		
	4 birds		

Checked all acorn buckets on nov. 2: no acorns and none seen on overhanging oaks. 1 bucket with a very dead Peromyscus and one with a live, young Lepus (eaten).

1969

The exposures on nov. 3 showed somewhat greater amount of vegetation in the true exposure compared to the false exposure

Dec. 9 To Alviso marsh with Aunt, Dave + Raymond Hawes, Phil + Lora Myers. Highest tide of year was at 11:38 a.m. (+10.0 ft.). Clear day. We got to Alviso about 11:15 and found everything in ~~site~~ sight except the yacht harbor completely protected from the tides by dikes. The water in the yacht basin seemed to be 10 feet higher than the salicornia marshes east of the railroad tracks. By "walking" about 2 miles north along the RR we found flooded marshes. (actually hitchhiked with a commercial trapper of live salt-pond fish (all right type) who had 20 or 30 pounds of them alive in stacks of burlap covered trays. He sells them "to the University" and ships them out also for live bait. Says they will survive 2 or 3 days out of water). The marshes were covered by several feet of water; the water level came up to the ballast of the RR track. Lots of sandpipers, willets, shorebirds, egrets; even mixed flocks of sparrows + sandpipers along the RR. But no apparent small mammals. By turning boards along the RR we found 4 live Sorex, 1 dead Sorex, and 1 live Reithrodontomys. I can't imagine where all the presumed marsh inhabitants were. They were not floating on boards, clinging to emergent vegetation + shore poles, nor running along the RR.

Pearson
1970

Hastings Reservation, Monterey Co., Calif.

July 3 Arrived 2 pm with Anita, Carol, CJ Rolfe, David Burch, and Christine Meek. Hot and humid. Set oak and meadow Calhoun line before supper and chaparral line after supper, no mouse sign along oak and chaparral lines (adult woodrat droppings on the oak line), some meadow sign along the meadow line. Saw fresh rabbit at the edge of the channel along the chaparral line. Fresh rabbit droppings as usual at the edge of the channel. White-tailed kite hunting over Pearson field at dusk; saw 3 stoops onto ground but apparently caught nothing.

Enclosures in Pearson field: both the grassy and the false grassy have thicker vegetation than surrounding area — no bare patches of ground showing through; more old dead vegetation. No gross difference between the two.

night clear, calm, no dew.

July 4 Oak trapline had 2 sprung empty at the downed oak, many baits gone. Chaparral line had 3 *trowi*, all in chaparral. Meadow had 1 *mamiculatus* and 1 half-grown *Reithro*; about 20 sprung empty.

Went with Dave Bradford through his channel area, 6:30 to 8:30 a.m. Lots of marked smoked cards. Saw a rabbit twice in his channel area, but not sure whether it was brush or cottontail.

Pearson
1970

Rebaited traps before supper. One small Cricetid Reithrodontomys at #16 chaparral. no others. no baits gone on the chaparral line, but lots gone on the other lines (grasshoppers?). Carried fence posts up school hill after supper. Day hot.

July 5 Ran chaparral line at 6 a.m.; lots of baits stolen, about 4 sprung empty. Others held 1 Tmeir, 1 Dipo, 1 brown towhee, 1 bewick wren, 1 wren tit, and 1 mountain quail. also 1 Dipo lying dead half-way between two of the posts, a trap sprung + empty at one of them. Saw 2 brush rabbits along edge between pairs 16 and 19. Also probably a brush rabbit at edge of riparian growth in long field.

Meadow line held nothing (lots of grasshoppers on baits) and oak line held 1 immature mearnsi.

In Pm, chaparral line held 1 wrens tit at #3, 1 bewicks wren at #5, and one Cricetidae at #16. other lines nothing. Rebaited after supper.

In a.m. cut a new piece of artemisia trail beginning at the south corner of the field on haystack hill and running down the ridge, then angle left. 15 trap stakes. Day hot. See photo of June 9, 1969 for location of new piece of line.

Two rabbits seen at edge of School Hill chaparral at 4:30 pm; looked mostly like cottontails. Photos of this patch at 4:30.

July 6 Chaparral line at 6 a.m held 1 Perognathus and 5 empties. Oak line held 1 Reithro at station 1 . meadow line had 1 microtus, 1 Reithro, and 1 Peromyscus maniculatus + 2 empties. night was much cooler.

1970

Dissection of 36 pellets, some very fresh, picked up under the occupied bite nest revealed no insects, 43 microtus, 3 Reithro, Peromyscus, 1 Dipo.

Dave Bradford had put museum specials at each of the 15 new stakes in the Colburn Clafford at dusk. caught nothing by 6:30 a.m.

Pearson
1970

Aug. 10

Orinda, pasture across creek from my house, Contra Costa Co.
My 1-meter exclosure following a summer of fairly high meadow population: surroundings are dry thistle, scattered dry mustard, dry small grasses, a few dry common stalks on hillside, a few short oats up to 26" high. also a few stub-green bristly ox-tongue, Epilobium paniculatum, and prickly lettuce. Lots of runways and whitewash just outside the wire. Inside: lots of last-years stalks of oats and common leaning against wire, lots of oats, some with stalks as thick as a pencil and 5 feet tall, quite a bit of Elymus (more outside), a few tall sprigs of rye? grass. no mustard, no common, no thistle, nothing else; good thick mouse cover.

Sandy's oat exclosure (~~Aug. 31~~ set up Aug. 31): outside mostly med.-sized oats, a few mustard, a few foxtails, 2 or 3 prickly lettuce, other grasses but no Elymus. Inside the exclosure: med. oats, 2 prickly lettuce (one 4 ft tall), 1 Cotula thistle, fox-tail, other grass, some gopher diggings, one mustard, dried legume.

Sandy's Elymus exclosure: mostly Elymus, mixed with light grasses and maybe 10 deer-cropped prickly lettuce, no oats, a few thistles, no mustard for 3 meters. Inside: 5 deer-cropped prickly lettuce and one 3-foot uncropped one, several oats up to 4½ feet and several others cropped, Elymus (the greenest around), a few thistle, and light grasses (brome and

Sandy's thistle exclosure: outside is thistle + oats plus a smattering of brome, cropped prickly lettuce, a few

Eschscholtzia, no mustard or Cornus. Inside: oats (no taller), Thistle, 1 prickly lettuce, one large snake skin, no or almost no other grasses. Possibly a mouse bob inside. not much diff.

Sandy's Cornus exclosure: surrounding are lots of mouse holes + whitetails, Cornus (some small ones still green), browsed Eschscholtzia, mustard, no oats, no thistles, no grass, lots of bare ground. Inside: lots of big green prickly lettuce, some 4½ to 6 feet tall and others browsed off at 3½ feet, green flowering bristly ox-tongue, (4 ft. tall), 1 Italian thistle 4½ ft tall, several mustard 4½ to 5 feet, 2 Eschscholtzia 4½ to 5 feet, lots of litter. most dramatic! no bristly ox tongue, no prickly lettuce, no thistle for many yards. control - a few ox-tongue not far away (browsed). Exclosure was proposed Sept 20 at which time nearly was bull thistle and other thistle inside. only a few Cornus inside, and these not big.

Sagebrush Creek,

aug 14 With Sandy put 40 pairs of collapsible aluminum small Sherman, 2 pair side by side consisted of one plain trap and one with masking tape on floor sprayed with black paint. Set at 7 p.m., oatmeal, half in meadow and half in near open woods - sage, mule ears.

aug. 15 Ran traps at 8:15 a.m. catch:

Block	Square
1 Peromyscus	chipmunk 1 2 08

Reavor
1970

At 9 am cruised the meadow across from the station headquarters looking for garter snakes. Found one 5 yards south of stream (marked 6 ventral ± anterior to anus, medium sized snake) but no others until 10:45, a small one, marked ventral 5, at the weir, 2 yards from stream. Crossed the meadow at least 8 times at different distances from stream, no doubt, so should be good negative evidence. no signs of mucosus.

at about 2 pm, Sandy ran traps in meadow and we had one dead mucosus in a black trap. at dusk a live mucosus in a white trap.

aug. 16 Night clear. Traps in A+B held a chipmunk in white trap, a mucosus in white, a Peromyscus in white, and a chipmunk (1205) in black,

Cruised for garter snakes across from the station, 8:30 to 9:15. Saw one medium, on shingle beach across from volley ball net, 2 yards from stream, it appeared to have been naked on (it faced on rt side, not mine from yesterday 10 yds away.

If the garter snakes are primarily bird + mammal predators, they might be concentrated near the stream because that's where the Zapus are. The birds playing along the stream saw count 6 in the middle of the day

caught one garter snake where Sage Hen Creek crosses the highway, near water.

Pearson
1970

Oct. 15 At noon put 89 large Norways in Orinda Pasture with Isha Anderson, a grad student of Lidicker's. Weeds & grass dry, lots of runways, droppings, and whitewash. Some Baccharis being grazed. Saw one mike.

Oct. 16 Isha ran traps in a.m. and reported that she caught 21 microtus - to be used for genetics breeding purposes

1970
Pearsa

½ km E Rodadero, 20m, Dept. of Magdalena, Colombia

Dec. 27 Set 20 small Sherman traps with bread in acacia - tupido thorn scrub, some rocks, no water sign. Quite arid, little grass, some "fig" bushes that look like small succulent trees with large palmate leaves, some vine-like bushes with morning glory flowers, and scattered other bushes. Little grass in spite of ~~cows~~ no goats or sheep seen, a couple of cows in fenced "pastures".

Dec. 28 One golden marmosa in trap; promptly lost it by leaving it on the counter of a frutas stand on my way home. It was caught in the most tangled spot on the line.

Dec. 29 19 traps at dusk, some live bait baited with yucca. a native says there are "gatos pardos" here - maybe ~~tayra~~ tayra, since Carol & John saw one this morning.

Dec. 30 Two more marmosas, one of them in same set as the one on Dec. 28. Bread discarded Dec. 28 still lying on ground untouched. Bits of acacia ~~tender~~ branches the size of a finger have been and are being cut by large grey beetles? Cut bibo with a pipe cutter. The extent of damage is impressive. Birds seen in the scrub are quail, dove (nesting), hummer with striped face and feeding close to the ground on insects, cactus wren, mocking bird, and "wren" with black face and belly.

at dusk set 17 traps in marshy - sedgy - grassy strip on the edge of town. Some cattails, no runways.

Dec. 31 2 Mus and 1 Rod in traps at 6 a.m. Released them.

Left at 8 a.m. with family and CJ Ralph in rented jeep headed for the hills. Took the road ~~outback~~ of Santa Marta through minca and El Campano. Tree begin at only a

1970-1971

few hundred feet elevation, then coffee. Coffee is grown on very steep slopes and with much shade so that a facing hillside looks like forest but is really coffee under big dense shade trees. At about 1500 m near the upper limit of coffee we saw 2 bromeliads growing on a steep road cut. One contained a frog and the other a salamander. This started a search for a mile or two of the road in perhaps 30 available bromeliads. Caught 3? kinds of frogs and about a dozen salamanders plus assorted flatworms, cockroaches, grubs, etc etc. The biggest salamanders shared a bromeliad with a small one, and several shared with toads. A small cluster of eggs, maybe salamander, was between bromeliad leaves. Several salamanders seemed "stunned," lethargic, almost dead, but one wiggled frantically when prodded with a stick.

While we were at 1500 m it rained down around 1000 m making the road a mess in places. Perfectly dry down lower. The man we rented the jeep from (seemed very sensible) says 2 rainy seasons, one around April and another around September.

Found a squashed Tanager on road in coffee country about 1000 m + King vulture + flocks + hawks all together, soaring

Jan. 3 ~~Jan. 3~~ Drove from Rodadero to Barranquilla 7-9 a.m. Wonderful swamps much of the way with herons, caracaras, hawks, egrets etc. a large monkey dead on road, reddish brown.

1971
Pearson

Orinda, Contra Costa Co. [Pasture]

April 25 The pasture outside the exclosure is mostly Bromus mollis with scattered oats, geranium, small thistle (blooming), burr clover (blooming), vetch (blooming), prickly ox tongue, and further up the hill a few lupine. I don't recall lupine before. Two or three yards above the exclosure is fairly pure ~~[illegible]~~ thistle, then common and mustard. The tops of many of the vetch have been grazed off (deer?). Inside the exclosure is a dramatically tall and dense stand of vetch and oats, each of them bigger and more robust than anything visible for 20 yards around (and probably nowhere else in the pasture. The tops of many of the oats and vetch have been grazed. Very little mollis inside, but some Elymus. a little Elymus outside also. Photo on Plus X.

Sandy is pure oats exclosure set up fall 1969 is likewise dominated by vetch, some oats, almost no mollis although lots of it nearby (surrounding). Her Elymus exclosure is surrounded by mollis, scattered Elymus, scattered oats, a little mustard. Inside it is oats, Elymus, brome, and

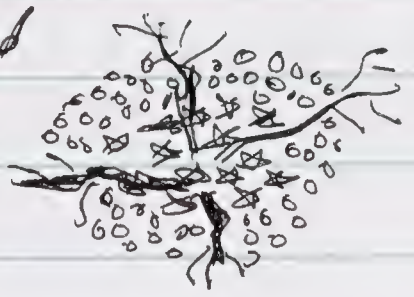
Her pure Common exclosure now stands amidst young Common, seeded mustard, and thistle. a few Vicia. Inside it has many Vicia, thistle, common, a couple of mustard, and a couple of Epilobium. a few Epilobium outside also. Main diff is much more Vicia inside

Trapping along the fence for microtus overnight with 30 traps + no mice. No runways, no cuttings. This was 2 to 3 weeks ago

Pearson
1971

Orinda Pasture

april 25 (cont.) a dead and collapsed Bouteloua bush up on the knoll in grass-thistle mix but common coming off in the center, surrounded by a ring of thistle, then grass beyond that.



* = common
o = thistle

may 7 Fred McCollum trapped in the pasture in Orinda. after much hunting for runways and cuttings he caught 3 microtus in 12 traps. Found only 3 good sites with fresh sign. no Reithro or mus. By using 3 100-foot runway transects he estimated 3 microtus per acre.

may 9 Photo of enclosure on Tri-X.

may 23 Orinda Pasture enclosure inside is greener still than outside. Still dominated by vetch, then avena (tall and green still), then rye grass, The vetch is browsed by deer. no mustard or Bromus inside. Outside is oats, B mollis, rye grass, timothy, ox tongue, mustard, small vetch, thistle. no B. rigidus x Kodacolor photo

Pearson
1971

Orinda Pasture exposure, vetch inside. May 9, 1971

May 9, 1971

as above

Pearson
1971

Hastings Reservation, Monterey Co., Calif.

June 4 Set the three Calhoun lines at 4-7 pm, but with certain departures from standard procedure owing to shortage of traps. The chaparral line had only one trap at the last 6 stations and only 2 traps at each of stations 24-30 (hence 16 traps short). These are, or the new extension to the chaparral line. The meadow trap line had 5 rat traps and 1 small Victor mouse trap used at the last 3 stations. Scared up a pair of rabbit-eared oak line.

The spring has been very cool, few hot days; oats mostly still green. Long field full of blooming lupine; Jimmy Bell says best lupine year ever. No microtus sign.

June 5 Night cold and clear; morning clear, lots of dew. Ran traps at 6:30 with Phil Myers, Andy Griffin, and Steve Davis. Chaparral line had lots of trees, some Peromyscus calif, two Dipos, no birds (see summary). Meadow line had only two maniculatus. Oak line had 1 spring-sensitive in middle of line under the downed limb.

General impression is that there are lots of gophers + badgers this year. Saw "herd" of 7 large turkey on school hill. Day sunny, windy, cool. Saw one more lone turkey; about usual number of deer.

Ran oak line at 3 p.m., nothing. See species account of badger encounter. Meadow line at 6 pm had 2 very stinky microtus, and chaparral line had a large horned lizard at station 31. Phil added the 16 missing specials to this line and I replaced the 5 rat traps on the meadow line with museum specials. Took photo of Dave Bradford's chemise.

June 6 Night cold, clear, almost full moon. Ran traps at 6:30 a.m.

Pearson
1971

See summary of trap lines. Day cool, breezy, sunny. Noteworthy was a trevi trapped along the oak trap line. On one of the acorn garbage cans, the drainage holes had clogged up, the garbage can filled with water, broke free, drifted to the ground, and was sitting upright on the ground with a couple of gallons of water in it and a break in the side giving easy access to the water. Although it was not at one of the regular stakes, we decided to set a museum special at it yesterday morning. This morning there was a trevi caught. Does this demonstrate a shortage of water or a shortage of shelter (under the bottom). The only other trap under shelter (under the downed limb) was spring - empty again.

afternoon trapline held one microtus in meadow. Day cool, breezy, sunny.

june 7 Night clear cool, one night short of full moon. Fog came in and filled valley up to about Red House at 5 a.m. but was gone by 6 a.m. nothing in meadow traps or oaks (including the trap at the water-filled garbage can), in chaparral were numerous trevi, a few Peromyscus calif; one Reithro on edge of chaparral. Note no birds this year. Sept 8:15 a.m.

Summary:

	june 5		june 6		june 7	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
Oaks			microtus 1			
meadow	P. manic. II	microtus II	~~microtus~~	microtus I		
chaparral	Dipo II Per. calif II P. trevi IIII IIII		Dipo III calif. II trevi IIII IIII		calif I trevi IIII I Reithro I	

Pearson
1971

Badger

Hastings Reservation, Monterey Co., Calif.

June 5 Saw a badger snuffling in the grass at the south-west edge of the hay field on School Hill. Stopped to watch him from 20 ft. after about 2 min (3:25 pm DST) I heard something coming through the grass in the meadow behind me; I turned slowly and another smaller badger was coming towards me. It came up cautiously and sniffed at the camera case at my feet, peered up at me, then took alarm and ran off through the grass, doing a loop around toward the forest. The noise of no. 2 running through the grass frightened no. 1, who ran into the ~~woods~~ woods, No 2 ~~[illegible]~~ course intercepted no. 1's and so no. 2 followed precisely in the trail of no. 1 and they met under a poison oak thicket and rubbed noses, then started to hunt again. I followed no. 1 and lost track of no. 2, but after about 5 minutes no. 2 headed toward me and came up to about 3 feet, peered at me, then went slowly off in another direction. I followed no. 1 as he ~~[illegible]~~ hunted through the oaks (grassy weedy floor with lots of dead leaves piled in) In 35 minutes of observation the badger covered 227 yds bee line or about 270 yds total, all of it being pretty much in one direction. He did no real digging, all just snuffling and scratching a few leaves here and there. On 3 occasions he seemed to find something and chewed on it for about 20 or 30 seconds; I am pretty sure it was not mouse or gopher. Grasshoppers were abundant in the meadow, but I would not expect him to chew them that long.

I was never more than 30 feet from him, frequently only 10. Much of the time I walked along beside him

Badger

like a man walking his dog. As long as I stayed downwind (there was a good breeze) he payed no attention to me or to my noisy footsteps. I would freeze when he looked at me. On two occasions I could not keep myself downwind and got a bit off to one side; he immediately became suspicious and peered in my direction, and changed his course to get farther away. When alarmed, both animals elevated the stubby tail to a vertical position.

On one occasion he turned abruptly upwind to the base of a large, somewhat bushy live oak and snuffed in the leaves. a few inches in front of his nose a small mammal awkwardly climbed up the trunk of the oak into the boarder. The badger did not see it but realized at once that something had climbed up. The badger peered up into the tree and even raised up and put his feet on a low branch and craned up into the tree, then resumed hunting in the original direction. The prey seemed most like a young chipmunk, but since I have seen no chipmunks this year, it may have been a Peromyscus sp. or a woodrat (but there was no stick nest).

The whole hunting process was very shamblike. I was impressed by how poor their vision is and how much they must operate by olfaction.

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